### Figure 6.1 Elements of a Logic Model

- **Resources or inputs** can be financial, human, organizational, system-oriented or community-based—the factors needed to support program activities.
- Activities include services such as education, home visits, environmental assessment and home intervention.
- Outputs are counts of activities related to recruitment/intake, education, completed housing interventions and case management.
- Outcomes and impact are changes in short, intermediate and long term measures, such as health or housing conditions.

Figure 6.2 A Proposed Logic Model Related to Healthy Homes

Program Focus	Inputs	Activities	Outputs	Short Term Outcomes	Mid-Term Outcomes	Long-Term Outcomes
Asthma Healthy Homes Pilot	Health Department Staff Home Visiting Programs Home Inspectors Community Organizations Advocacy Organizations Rental Property Owners Pest Management Professionals Contractors Elected Officials Clinicians Health Insurers Foundations Funding Equipment Supplies	Educate families about environmental triggers in the home Conduct visual assessments Provide supplies for dust control and pest management Interventions including integrated pest management (IPM), moisture control, lead hazard reduction, etc. Refer families to smoking cessation programs Refer families to housing rehab services to address issues beyond program scope Refer housing units to code enforcement	Number of home visits completed Number of referrals to partner organizations Counts of supplies delivered Number of visual assessments for pests, mold, and moisture completed Number of homes receiving specific interventions such as IPM Number of housing inspections for housing code violations	Increased use of mattress and pillow covers, IPM supplies after one month Improvement in family Knowledge, Information, and Behavior (KIB) scores in one month Increase number of units where family limits smoking in the home	Reduction in counts of pests in units after three months Reduction in the reported number of symptom days after 3 months Reduction in the number of asthma triggers Reduction in ER and hospitaliztions at 12 months Increased number of units enrolled in housing rehab programs	Reduction in mold and moisture conditions observed at 12-month visual assessment Families show long term improvement on KIB scores Health insurers reimburse or pay for home visits and low cost environmental interventions Property owners adopt preventive policies

### **Common Program Outputs**

### Figure 6.6 Common Program Outputs

- Program Outreach and Community Education
  - Number and type of presentations
    - Audience (health care personnel, parents, contractors, educators, community, rental property owners, tenants, owneroccupants). Audiences can be divided into public and professional.
    - Number of individuals reached
  - Number of health fairs
    - Number of interactions (participants, names recorded on sign in sheets, requests for follow up information)
    - Pieces of literature distributed
  - Number of housing units reached through door-to-door canvassing
  - Number of media events
    - Paid vs. unpaid
- Program Referrals
  - Number of referrals from medical providers
  - Number of referrals from community-based organizations
  - Number of requests for information and enrollment associated with different media placements
  - Number of referrals by healthy housing programs to other housing programs
  - Number of referrals by healthy housing programs to other health or social service programs
- Families/Individuals Recruited
  - Demographics of participants and nonparticipants
  - Level of housing risk in units of participants and non-participants

- Case Management/Care Coordination and Education
  - Number of children tested for lead exposure
  - Number of home visits
  - Number of families receiving educational intervention
  - Number of referrals provided to families for supportive health and social services
  - Number of referrals to other services completed and not completed
  - Number of families receiving cleaning supplies
- Home Assessment
  - Number of questionnaires administered
  - Number of homes with assessments conducted
  - Number of homes with environmental samples collected
  - Number of environmental samples collected
- Housing Unit Remediation
  - Number receiving enhanced ventilation and moisture control interventions
  - Number receiving integrated pest management
  - Number receiving lead hazard reduction
  - Number of fire alarms and carbon monoxide detectors installed
- Work Force Development Activities
  - Number of contractors recruited
  - Number of contractors recruited from the target population and area
  - Number of individuals trained

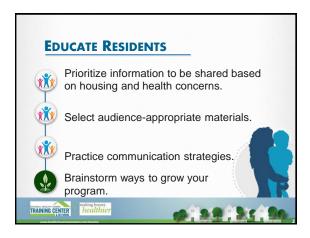
Use of a control group provides a stronger basis for analyzing program effects. Control groups are groups of housing units or individuals that are comparable in terms of location, condition, residential characteristics or demographics but do not receive program services or interventions. Randomized control trials, in which participants are randomly selected and assigned to a treatment or control group, are the "gold standard" for experimental research designs.

Use of control groups and randomized designs is generally confined to research and is rarely used for evaluating programs. Ethical issues associated with the use of control groups in housing intervention research are reviewed in a publication by the NAS/IOM.

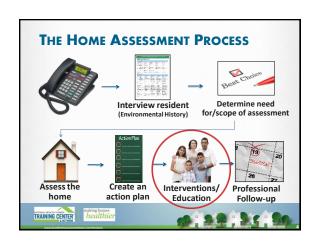
### **Health and Well-Being Outcomes**

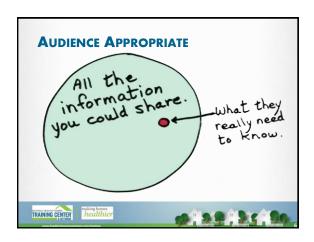
Health outcomes commonly tracked by healthy homes programs are listed in Figure 6.7.

## MODULE 5 EDUCATE RESIDENTS Healthy Housing Solutions<sup>®C</sup>



## SELF ASSESSMENT MODULE 5 - EDUCATE RESIDENTS Name the most important factors in inspiring trust and credibility. Name the final step in the assessment process, before closing out a client.









### **EDUCATION**

- Begins at the beginning and ends at the end!
- Takes many forms: verbal, written, sign-language, pantomime
- · Goes hand-in-hand with communicating assessment results
- Should be aligned with agency policy on how assessment results are delivered





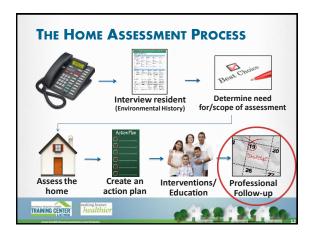
### IN-HOME EDUCATION

- Find teachable moments:
  - Visual walk-through of home
  - One-on-one education
- Keep information relevant and accessible
- Explain relationships between hazards and health
- Answer questions
- Schedule follow-up to deliver assessment results





### HEALTHY HOUSING KIT WHAT'S IN YOUR BAG? • Demonstration Kit • Items to leave with the Resident



# FOLLOW UP & PROJECT CLOSEOUT Determine what follow-up is needed Check your logic model Funding/reporting What format the follow-up should take Is it possible? How many follow-ups Frequency With whom?









### National Healthy Housing Standard



### National Healthy Housing Standard

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### **Foreword and Acknowledgments**

### **FOREWORD**

Housing is one of the best known and documented determinants of health. The affordability, location, and quality of housing have all been independently linked to health. Poor quality housing and blighted neighborhoods diminish property values, increase crime, and erode the cohesiveness and political power of communities. Despite the critical role of housing in public health, attention to U.S. housing conditions remains incommensurate with its importance to our wellbeing. One illustration of this is the number of homes in substandard condition. Despite setting a national goal in Healthy People 2010 to reduce the number of units in substandard condition by 52 percent, we have made no progress. There were 6.3 million units in substandard conditions in 2001; 6.3 million units remain substandard in 2011 according to the most recent American Housing Survey.

More than a century ago, growing concern about the toll of infectious diseases such as tuberculosis, typhoid, and dysentery in America spurred a national public health movement aimed at eradicating inadequate housing conditions. The effort yielded important housing improvements that dramatically curbed the outbreak of communicable diseases. In the decades that followed, the public health community became less involved with housing as separate governmental departments were established to develop and enforce housing and building codes. This separation of public health and housing has challenged the nation's ability to mount a successful campaign to improve the quality of housing and neighborhoods.

We at the National Center for Healthy Housing (NCHH) and the American Public Health Association (APHA) have created this evidence-based National Healthy Housing Standard as a tool to reconnect the housing and public health sectors and as an evidence-based standard of care for those in the position of improving housing conditions. We have drawn from the latest and best thinking in the fields of environmental public health, safety, building science, engineering, and indoor environmental quality.

Our focus in the National Healthy Housing Standard is the over 100 million existing homes in our country that offer the most significant opportunity to protect public health and reduce health disparities. Although new homes are typically safer and healthier, having been built to modern building standards, technologies and regulations, and to ever-changing consumer expectations, the new construction market remains a fraction of the overall housing stock in the country. In contrast, regulations and industry practices affecting existing owner-occupied and rental housing, the focus of this document, have not kept pace with our knowledge about housing-related disease and prevention of disease and injury through routine maintenance.

The consequences of not dealing with substandard housing are dire in both human wellbeing and cost:

- About 20-30 percent of asthma cases are linked to home environmental conditions.
- 21,000 lung cancer deaths result from radon in homes.
- Over 24 million homes that have lead-based paint hazards put children at risk of the irreversible disease of childhood lead poisoning.
- Home injuries are the leading causes of death for young children and put 6 million adults over 65 in hospitals and nursing homes due to preventable falls.

We can do better. We can make our homes smart, at least as smart as our phones. For example, carbon monoxide detectors can alert us to life threatening situations. Modern efficient ventilation systems can keep us comfortable, control humidity, and provide clean fresh air. More resilient homes can handle climate chaos, withstanding storms and wild swings in temperature with proper insulation, air sealing, structural integrity, and moisture control and more. Grab bars, handrails, and ample lighting will help accommodate our aging population. These are the homes in which today's families want to live and grow old and that future generations deserve.

We know that to bring about our vision of ensuring that all people live in safe and healthy homes, we will need to marshal political will and financial resources. Regulations are one important way to address unhealthy housing, but we can also achieve our vision by arming the private sector with the right information. In every community, property

owners, advocates, code officials, public health leaders, and others are positioned to recognize and coordinate their shared missions of keeping people safe and healthy in the places they live. We hope the Standard will inspire action and cross sector collaboration. Most of all, we hope through the implementation of this Standard we will save lives, shrink disparities, and ensure our nation's homes are the safe havens they were meant to be.

**Georges C. Benjamin**, MD, FACP, Executive Director, American Public Health Association **Thomas M. Vernon**, MD, Chair, National Center for Healthy Housing; Chair, National Committee on Housing and Health

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### **ACKNOWLEDGMENTS**

### **National Committee on Housing and Health:**

Meri-K Appy, BA, President, Appy and Associates, LLC

**Georges Benjamin**, MD, FACP, Executive Director, American Public Health Association **Gail Christopher**, DN, PhD, Vice President for Programs, W.K. Kellogg Foundation

Henry Cisneros, MURP, PhD, Chair, CityView

Carlos Dora, MD, PhD, Coordinator of Interventions for Healthy Environments, World Health Organization

Ruth A. Etzel, MD, PhD, FAAP, Professor of Epidemiology, University of Wisconsin Milwaukee

**David Fukuzawa**, M. Div, MSA, Program Director for Health, The Kresge Foundation

Lynn Goldman, MD, MPH, Dean, George Washington University School of Public Health and Health Services

Moises Loza, BA, Executive Director, Housing Assistance Council

Nic Retsinas, MCP, Senior Lecturer in Real Estate, Harvard Business School

Megan Sandel, MD, MPH, Pediatrician and Associate Professor, Boston University Medical Center

Steve Thomas, Spokesperson, Habitat for Humanity

Thomas M. Vernon, MD, Chair, National Center for Healthy Housing (Chair of the National Committee)

### **Technical Review Work Group:**

### Research and Academic Participants

**Terry Brennan**, MS, Building Scientist, President, Camroden Associates

**Patrick Breysse**, PhD, Director, Occupational and Environmental Hygiene Program, Center for Global Health, Johns Hopkins University

David Ormandy, PhD, Principal Research Fellow, Institute of Health, University of Warwick (UK)

**Claudette Reichel**, MS, Professor and Extension Housing Specialist, Louisiana State University

William Rose, M. Arch, Research Architect, University of Illinois Urbana-Champaign

Megan Sandel, MD, MPH, Pediatrician and Associate Professor, Boston University Medical Center

**Richard Shaughnessy**, PhD, Program Director, Indoor Air Quality Research, University of Tulsa

**Charles Treser**, MPH, Senior Lecturer, Environmental and Occupational Health Sciences School of Public Health, University of Washington

### State and Local Government Agency Participants

**Suzanne Condon**, MSM, Associate Commissioner and Director, Bureau of Environmental Health, Massachusetts Department of Public Health

Alan Johanns, MS, Program Manager, Environmental Services Department, City of San Diego

**James Krieger**, MD, MPH, Chief, Chronic Disease and Injury Prevention Section, Public Health, Seattle and King County (*Chair of the Work Group*)

### **Non-Governmental Organization Participants**

Paul Haan, BA, Executive Director, Healthy Homes Coalition of West Michigan

Kevin Kennedy, MPH, Managing Director, Center for Environmental Health, Children's Mercy Hospitals and Clinics

Beth McKee Huger, MSW, Executive Director, Greensboro Housing Coalition

### **Federal Agency Participants**

**Peter Ashley**, PhD, Director, Policy and Standards Division, Office of Healthy Homes and Lead Hazard Control, U.S. Department of Housing and Urban Development

**Mary Jean Brown**, ScD, Chief, Healthy Homes and Lead Poisoning Prevention Branch, U.S. Centers for Disease Control and Prevention

**Greg Brunner**, MS, Engineer, Indoor Environments Division, U.S. Environmental Protection Agency **Karin Mack**, PhD, Senior Behavioral Scientist, Injury Prevention Program, U.S. Centers for Disease Control and Prevention

### **NCHH Staff:**

Jill Breysse, Project Manager
Dave Jacobs, Research Director
Jane Malone, Policy Director
Rebecca Morley, Executive Director

The basis for this document is *Housing and Health: Recommended Minimum Housing Standards*, which was published in 1986 by the American Public Health Association and the U.S. Centers for Disease Control and Prevention

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Sections of the 2012 Model Codes (copyright 2011) are reproduced with the permission of the International Code Council, Washington, DC, www.ICCSAFE.org, all rights reserved:

- Sections 302.2, 302.6, 303.2, 303.18.1, 304.2, 305.4, 402.1, 402.2, 403.1, 403.2, 403.5, 404.3, 404.4.3, 505.4, 602.2.2, 602.2.3, 603.2, 603.3 of the 2012 International Property Maintenance Code.
- Section 1210.2 of the 2012 International Building Code.
- Sections 907.2.11.2, 907.2.11.3 of the 2012 International Fire Code.
- Sections 424.3, 424.5, 501.6, 504.4, 504.6 of the 2012 International Plumbing Code.
- Sections E3901, E3902.1, M1901.1, P2713, P2708.3, P3009, R310.1, R310.2, R310.2.1, R311.7.5, R311.7.8, R312.1.1, R312.1.2, R312.1.3, R312.2.1 of the International Residential Code.

### **USING THIS DOCUMENT**

The Standard provides health-based provisions to fill gaps where no property maintenance policy exists and also a complement to the International Property Maintenance Code and other policies already in use by local and state governments and federal agencies for the upkeep of existing homes. The Standard bridges the health and building code communities by putting modern public health information into housing code parlance. The Standard is written in code language to ease its adoption, although we anticipate that states, localities, and other users will tailor it to local conditions.

The Standard consists of seven chapters and a section of definitions. The annotated version of the Standard explains the public health rationale for each provision, and provides references and resources for more information. Individually and together, the Standard constitutes minimum performance standards for a safe and healthy home. In developing the Standard we found a variety of provisions that could be added to further enhance the health and safety of the home, but that would be difficult to achieve during property maintenance due to cost or feasibility. We have included those provisions as "stretch" measures for users who want to go above the minimum requirements or who can integrate compliance with the provisions during property renovation. We encourage the adoption of the stretch provisions wherever feasible.

### Annotated Standard: Requirements and Stretch Provisions with Rationales, References, and Resources

### 1. DUTIES OF OWNERS AND OCCUPANTS

### 1.1. Duties of Owners.

The owner has the duty to ensure that the structure, dwelling, dwelling unit, common areas, and premises are maintained in a safe and healthy condition, in compliance with this Standard and other applicable requirements.

- **1.1.1.** The owner shall ensure the collection of trash and recyclables and provide and maintain trash containers, bulk storage containers, recycling containers, and areas where the containers are stored.
- **1.1.2.** The owner shall maintain the building and premises to keep pests from entering the building and dwelling units, inspect and monitor for pests, and eliminate pest infestation in accordance with integrated pest management methods.
- **1.1.3.** The owner shall provide occupants with at least 48 hours written notice of the planned use of a chemical agent such as a pesticide or herbicide, the date and location of application, and a copy of the warning label.
- **1.1.4.** The owner shall not cause or allow any water, sewage, electrical, or gas service, facility, or equipment required for safe and healthy occupancy to be removed, shut off, or discontinued for any occupied dwelling, except for such temporary interruption as may be necessary while repairs or alterations are being performed, or during temporary emergencies requiring discontinuance of service. This provision does not apply where the occupant has contractual control over the service and shall not be interpreted as preventing a utility company from discontinuing service for reasons allowed by law.
- **1.1.5.** The owner shall investigate occupant reports of unsafe or unhealthy conditions, respond in writing, and make needed repairs in a timely manner.

### 1.2. Duties of Occupants.

The occupant shall properly use and operate the dwelling unit and owner-supplied fixtures and facilities controlled by the occupant in order to maintain a safe and healthy environment within the dwelling unit, and report unsafe or unhealthy conditions, including breakdowns, leaks, and other problems requiring repair to the owner in a timely manner.

- **1.2.1.** The occupant shall place trash and recyclables in the appropriate containers.
- **1.2.2.** The occupant shall work with the owner to ensure pest-free conditions in accordance with integrated pest management.
- **1.2.3.** If the occupant's action leads to pooling of water or another excessive moisture problem inside the dwelling unit, the occupant shall clean up and dry out the area in a timely manner.

### 2. STRUCTURE, FACILITIES, PLUMBING, AND SPACE REQUIREMENTS

### 2.1. Structure.

### Requirement:

Every foundation, roof, floor, exterior and interior wall, ceiling, inside and outside stair, porch, trim, accessory structure, fence, door, window, and window glass shall be safe to use and capable of supporting the intended design loads and load effects and shall be in good condition.

### Rationale:

The structure of a dwelling is complex. Its different parts must all be adequately designed and properly maintained to ensure that the habitable space is safe and healthy. The structure of a dwelling is dependent on foundation and footing, vapor barriers, house framing, roof framing, roofs, exterior walls, and trim components that are maintained in good condition. Poor construction of the structure can result in several negative consequences, including dampness or condensation; poor energy efficiency; excessive noise; structural damage, such as cracks in walls, open joints, and loose roofs, which allows pest intrusion; and collapse of building components, such as fixtures, flooring, lighting and cabinets, which can lead to poor health, injuries, or even death. Structural deficiencies in a dwelling can cause falls, fires, burns and scalds, carbon monoxide and other poisoning, drowning, and other injuries.

### References:

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### 2.2. Facilities.

### Requirement:

Every plumbing fixture and pipe, chimney, flue, smoke pipe, and every other facility, piece of equipment, or utility shall be installed in conformance with applicable statutes, ordinances, and regulations.

**2.2.1.** Mechanical, utility, and heating equipment shall be separated from habitable rooms. In multifamily buildings, equipment rooms shall be locked.

### Rationale:

Housing facilities in disrepair are likely to cause health burdens as a result of plumbing leaks and chimney, flue, and smoke pipe malfunctions. Chimneys in poor condition can cause condensation buildup within the chimney, which can lead to deterioration and eventually chimney collapse. Additionally, carbon monoxide and other combustion-related hazards that leak through gaps and cracks can cause lasting damage to a resident's health. Fire outbreaks can also start in chimneys and lead to serious injuries or death.

### **References:**

Chimney Safety Institute of America. (2013). Safe home heating—avoiding carbon monoxide hazards. http://www.csia.org/homeowner-resources/Avoiding\_Carbon\_Monoxide\_Hazards.aspx

### 2.3. Plumbing System.

### Requirement:

Every plumbing fixture, stack, vent, water, waste, and sewer pipe shall be properly installed, maintained in a safe and functional order, and kept free from obstructions, leaks, and defects.

- **2.3.1.** An approved potable water supply system shall provide an adequate amount of running water under pressure to all fixtures simultaneously.
- **2.3.2.** An adequate supply of heated running water under pressure shall be supplied to sinks, bathtubs, showers, and laundry facilities. Water heaters shall be set at a minimum temperature of 110° F (43° C). At bathtub faucets and shower heads, the maximum temperature shall be 120° F (49° C). Heated water shall be provided by either a tank-type or tankless water heater. A tank-type water heater shall have a temperature/ pressure relief valve that discharges to a drip pan, storage tank, or the outside. The temperature of water discharged from a tankless water heater shall not exceed 140° F (60° C).
- **2.3.3.** Every waste pipe shall be connected to a public sewer system, an approved private sewage disposal system, or the dwelling's graywater system. No toilet waste pipe shall be connected to a graywater system. The drainage system shall have a cleanout.
- **2.3.4.** Faucet discharge points shall be located above the overflow rim of sinks, tubs, or other fixtures that collect water.

### Stretch Provisions:

- Bathtub and shower faucets shall have anti-scald devices, such as an automatic temperature control mixing valve, water temperature limiting device, or temperature-actuated flow reduction valve.
- Each dwelling unit in multifamily housing shall have a separate meter for water supplied to the unit.
- Multifamily housing with one or more central water heaters shall comply with ASHRAE Standard 188P to assess and manage the risks associated with *Legionella* in building water systems.
- A private water supply shall be tested annually to ensure that water does not have biological or chemical contaminants.
- If there is a suspected risk of excessive lead in drinking water supplied by a public water utility, the water shall be tested. The risk factors shall include, but are not limited to, presence of an occupant with a blood lead level of five micrograms per deciliter or more, pipes made of lead or leaded brass, test results indicating that the lead level in the public water supply exceeds federal limits, and plumbing repair work that has disturbed water supply components (such as faucets, valves, pipes, meters, pressure regulators, backflow preventers, lead-soldered joints, or service lines). If the lead level in the water sample exceeds 15 parts per billion, there shall be an investigation of the possible sources(s) to determine the appropriate course of action. If warranted, lead and brass-containing components shall be replaced.

### Rationale:

Plumbing leaks may cause mold growth on building materials. People who are exposed to molds may experience nasal and eye irritation, respiratory and allergic diseases, and asthma exacerbation. Damp conditions may magnify levels of biological agents, such as dust mites, bacteria, and cockroaches. The containment of household sewage is instrumental in protecting the public from waterborne and vector-borne diseases. Water at 140° F (60° C) can result in a second-degree burn after three seconds and a third-degree burn after five seconds. The long-term effects of scalds can include disability, disfigurement, or psychological harm and repeated skin grafts. Exposure to hazards in drinking water must be averted to prevent lead poisoning, *Legionella*, and other diseases caused by waterborne biological and chemical agents.

### References:

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- Connecticut Department of Public Health. (2013). *Private drinking water in Connecticut*. Retrieved from http://www.ct.gov/dph/lib/dph/environmental\_health/eoha/pdf/24\_residential\_drinking\_water\_well\_testing.pdf

### 2.4. Kitchen.

### Requirement:

Every dwelling unit shall have a kitchen equipped with the following:

- **2.4.1.** A kitchen sink in good working condition that is properly connected to heated and unheated water supplies and waste pipes. Any provided dishwasher and components of the sink, including disposal and water filtration devices, shall be in good working condition and properly connected.
- **2.4.2.** A counter for food preparation and cabinets and/or shelves sufficient to store occupants' food that does not require refrigeration and eating, drinking, and food preparation equipment. Cabinets shall have tight-fitting doors and no gaps between any surfaces. The counter, countertop edges, cabinets, and shelves shall be of sound construction and furnished with surfaces that are impervious to water, smooth, and cleanable.
- **2.4.3.** A range for cooking food. The range shall be properly installed with all necessary connections for safe and efficient operation and shall be maintained in good working condition.
  - **2.4.3.1.** The range shall include an oven unless both a separate oven, other than a microwave oven, and a cooktop are provided. A hot plate is not an acceptable substitute for burners on a range or cooktop. The range or cooktop shall have a vertical clearance of not less than 30 inches (762 mm) from above its surface to unprotected combustible material. Reduced clearances are permitted in accordance with the listing and labeling of the range hood.
  - **2.4.3.2.** Ventilation for the range shall be provided in accordance with Subsection 5.3.
- **2.4.4.** A refrigerator with a freezer. The refrigerator shall be in good working condition, of sufficient size to store occupants' food that requires refrigeration, and capable of maintaining a temperature less than 41° F (6° C) but more than 32° F (0° C). The freezer section shall be capable of maintaining a temperature below 0° F (-18° C).
  - **2.4.4.1** If the lease does not provide for a refrigerator, adequate connections for the occupant's installation and operation of a refrigerator shall be provided.
- 2.4.5. A kitchen floor in good condition with a sealed, water-resistant, nonabsorbent, and cleanable surface.

### Stretch Provisions:

• Cabinets and countertops shall be constructed of materials that are rated No-Added Formaldehyde (NAF) or Ultra-Low-Emitting Formaldehyde Resins (ULEF).

- Wall surfaces immediately adjacent to the range, sink, and counter shall be covered with an impervious finish.
- The joints where a wall meets a cabinet or counter, and where a counter meets a stove or sink, shall be sealed or covered to permit thorough cleaning and deter pests.
- Enclosed cabinets (as opposed to a combination of shelves and cabinets) sufficient to store occupants' food that does not require refrigeration shall be provided.
- Freestanding stoves shall have brackets to prevent tip-over.

### Rationale:

Properly designed kitchens enable the safe and hygienic preparation and cooking of food and reduce the risk of food poisoning. Damp, unmaintained surfaces may deteriorate, causing increased chance of growth of biological agents, presenting a risk of food contamination and food poisoning. Kitchen floors that are impervious to water and capable of being cleaned and maintained prevent the accumulation of dirt, moisture, and biological agents.

### References:

- California Air Resources Board. (n.d.). No-added formaldehyde and ultra low emitting formaldehyde resins. http://www.arb.ca.gov/toxics/compwood/naf\_ulef/naf\_ulef.htm
- International Code Council. (2012). *International residential code*, § M1901.1.
- U.S. Department of Housing and Urban Development—Office of Healthy Homes and Lead Hazard Control. (2010). Healthy home rating system—Operating guidance. Retrieved from <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_hhrs\_v1.pdf">http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_hhrs\_v1.pdf</a>

### 2.5. Bathroom.

### Requirement:

Every dwelling unit shall have a private bathroom equipped with the following:

- **2.5.1.** A toilet in good working condition that is sealed to the waste pipe and affixed to the floor and properly connected to both the dwelling's water supply and a waste pipe leading to an approved sewage system or private waste disposal system.
- **2.5.2.** A sink in good working condition, with a stable connection to the wall or secure attachment to the floor that is properly connected to the heated and unheated potable water supply and a sealed trap leading to a waste pipe.
- **2.5.3.** A bathtub or shower in good working condition that is properly connected to the heated and unheated potable water supply and a waste pipe. The bottoms of bathtubs and shower floors shall have permanent or removable nonslip surfaces.
- **2.5.4.** Cleanable nonabsorbent water-resistant material on floor surfaces and extending on bathroom walls at least 48 inches (122 cm) above a bathtub and 72 inches (183 cm) above the floor of a shower stall. Such materials on walls and floors shall form a watertight joint with each other and with the bathtub or shower.
- **2.5.5.** Ventilation for the bathroom provided in accordance with Subsection 5.3.

### Stretch Provisions:

- Grab bars shall be firmly anchored to the wall adjacent to each bathtub, shower, and toilet in accordance with the Americans with Disabilities Act Design Guidelines.
- Tub and shower enclosures composed of tile or panel assemblies with caulked joints shall be installed over moisture-resistant backing material, such as cement board. Paper-faced wallboard shall not be used behind such tub and shower enclosures. Monolithic tub and shower enclosures (e.g., fiberglass with no seams) are exempt from these limitations unless required by the manufacturer.

### Rationale:

Poorly maintained bathrooms can cause water damage, mold growth, and associated health issues. Exposure to bathroom-related biological agents can cause respiratory and gastrointestinal symptoms. People who are exposed

to molds may experience nasal and eye irritation, respiratory and allergic diseases, and asthma exacerbation. Structural deficiencies in the bathroom, such as the lack of grab bars and nonslip surfaces, may lead to falls, especially among young children and older adults. Children under the age of five years are most likely to fall in the bathroom, but older adults experience greater injuries. The most common injuries resulting from falls associated with a bath, shower, or similar facility are cuts or lacerations, swelling or bruising, or fractures. Outcomes from a bathroom fall are likely to be more severe than in other areas, because of the many hard projections and surfaces found in bathrooms and the fact that the user may be unprotected by clothing.

### References:

- Cutbill, M. (1982). *Analysis of accidents located in the bathroom.* London, U.K.: Department of Trade and Industry. As cited in U.S. Department of Housing and Urban Development—Office of Healthy Homes and Lead Hazard Control. (2010). *Healthy home rating system—Operating guidance.* Retrieved from <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance">http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_html.pdf</a>
- DiGuiseppi, C., Jacobs, D. E., Phelan, K. J., Mickalide, A. D., & Ormandy, D. (2010, September). Housing interventions and control of injury-related structural deficiencies: A review of the evidence. *Journal of Public Health Management Practice*, S32–S41.
- International Code Council. (2012). *International building code*, § 1210.2.
- NYC Mayor's Office for People with Disabilities. (2010, September). *Inclusive design guidelines*. Available at: http://shop.iccsafe.org/inclusive-design-guidelines-new-york-city-1.html
- U.S. Department of Justice. (2010). *Americans with Disabilities Act standards for accessible design*. § 609. Retrieved from http://www.ada.gov/regs2010/2010ADAStandards/2010ADAStandards.htm#Bars
- World Health Organization. (2010). *Technical and policy recommendations to reduce health risks due to dampness and mould*. Copenhagen: World Health Organization Regional Office for Europe. Retrieved from <a href="http://www.euro.who.int/\_data/assets/pdf\_file/0015/121425/E92998.pdf">http://www.euro.who.int/\_data/assets/pdf\_file/0015/121425/E92998.pdf</a>
- World Health Organization. (2009). *WHO guidelines for indoor air quality: Dampness and mould.* Retrieved from http://www.euro.who.int/ data/assets/pdf file/0017/43325/E92645.pdf

### 2.6. Minimum Space.

### Requirement:

The dwelling shall provide privacy and adequate space for sleeping and living.

- **2.6.1.** A bedroom shall not be the only passageway to the only bathroom in a dwelling unit with more than one bedroom.
- **2.6.2.** A bathroom or toilet room shall not be the only passageway to any habitable room, hall, basement, or the exterior of the dwelling.
- **2.6.3.** Every habitable room shall have a minimum floor area of 70 ft<sup>2</sup> (6.5 m<sup>2</sup>).
- **2.6.4.** Every dwelling shall have closet space or other storage space to store occupants' clothing and personal belongings.
- **2.6.5.** The ceiling height of any habitable room shall be at least 84 inches (213 cm). In a habitable room with a sloping ceiling, at least one-half of the floor area shall have a ceiling height of at least 84 inches (213 cm). If any part of a room has a ceiling height lower than 60 inches (152 cm), its floor area shall not be considered when computing the floor area of the room.
- **2.6.6.** A habitable room located partly or totally below grade shall be provided with natural light by windows in accordance with Subsection 4.3, and ventilation in accordance with Subsection 5.3. In such a room, the ceiling and any ducts, pipes, and other obstructions shall be at least 84 inches (213 cm) above the floor throughout the room, and walls and floors shall be waterproof and free of dampness.

### Rationale:

Privacy is a necessity to people, to some degree and during some periods. There should be sufficient space to provide for social interaction between members of the household, while allowing for private time away from other household members. Personal space and privacy needs are important for the individual members of the same household as well as for individuals or households sharing rooms and/or facilities. Providing adequate enclosed floor space for living, sleeping, cooking, or eating and storage helps prevent clutter and provides privacy to promote healthy living. Pest harborage, psychological distress, and injury hazards may result from clutter. Where units with rooms meeting the minimum floor area requirement are unavailable or unaffordable, it may be necessary to deviate from minimum room size.

### References:

- Housing Corporation and Care Service Improvement Partnership. (2006). *Good housing and good health?*Retrieved from http://www.healthimpactproject.org/resources/document/Good housing and good health.pdf
- International Code Council. (2012). International property maintenance code, §§ 404.4.3, 404.3.
- MidWest Plan Service. (2006). *The house handbook: Guidelines for building or remodeling your home.* Ames, IA: lowa State University.
- Office of the Deputy Prime Minister. (2004, May). *The impact of overcrowding on health & education: A review of the evidence and literature.* London: Office of the Deputy Prime Minister. Retrieved from http://dera.ioe.ac.uk/5073/
- U.S. Department of Housing and Urban Development—Office of Healthy Homes and Lead Hazard Control. (2010). *Healthy home rating system—Operating guidance*. Retrieved from <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=operating guidance">http://portal.hud.gov/hudportal/documents/huddoc?id=operating guidance</a> hhrs v1.pdf

### 2.7. Floors and Floor Coverings.

### Requirement:

Floors and floor coverings shall be attached at each threshold, maintained in safe and healthy condition, capable of being cleaned, and free of bulges and buckling. Carpets shall have no tears, folds, or bumps.

### Stretch Provisions:

- Floor coverings shall consist of low-pile carpet or nonabsorbent material such as hardwood, tile, or resilient flooring. Carpet and other floor coverings shall be certified as having low volatile organic compound (VOC) emissions, and any adhesives, padding, or other materials used in installing the floor covering shall be certified as having no VOCs or low VOC emissions, and having no perfluorocarbons or halogenated flame retardants.
- Walk-off entry mats shall be provided inside or outside each entryway that leads to the outdoors.

### Rationale:

Worn carpet that is poorly maintained can pose slip, trip, and fall hazards. Carpet in poor condition may also be a source of chemical and biological agents that become lodged in the carpeting. Worn carpeting is difficult to vacuum adequately. Cleanable floors in good condition are less likely to accumulate dirt, moisture, and chemical and biological agents. Volatile organic compounds (VOCs) contribute significantly to unhealthy indoor air quality. VOC sources are not limited to the flooring itself, but also include glues, padding, and other materials used in installation. Perfluorocarbons (PFCs), which are linked to a range of developmental disorders and other adverse effects, were added to carpets for stain resistance until U.S. manufacturers voluntarily discontinued their use in 2006.

### References:

- California Department of Public Health. (2010). Emission testing method for California specification 01350: Standard method for the testing and evaluation of volatile organic chemical emissions from indoor sources using environmental chamber. Retrieved from <a href="http://standards.nsf.org/apps/group\_public/download.php/19152/CDPH%20">http://standards.nsf.org/apps/group\_public/download.php/19152/CDPH%20</a> 01350%20V1-1.pdf
- Carpet and Rug Institute. (n.d.). Residential: Green label/green label plus. Retrieved from <a href="http://www.carpet-rug.com/residentialcustomers/selecting-the-right-carpet-or-rug/green-label.cfm">http://www.carpet-rug.com/residentialcustomers/selecting-the-right-carpet-or-rug/green-label.cfm</a>

- Environmental Working Group. (2003). PFCs last forever. Retrieved from <a href="http://www.ewg.org/research/pfcs-global-contaminants/pfcs-last-forever">http://www.ewg.org/research/pfcs-global-contaminants/pfcs-last-forever</a>
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- National Center for Healthy Housing. (2008). *Carpets and healthy homes*. Retrieved from <a href="http://www.nchh.org/">http://www.nchh.org/</a>
  Portals/0/Contents/CarpetsHealthyHomes.pdf
- Scientific Certification System. (n.d.). FloorScore®. Retrieved from http://www.scsqlobalservices.com/floorscore
- U.S. Environmental Protection Agency. (2013, September). Significant new uses: Perfluoroalkyl sulfonates and long-chain perfluoroalkyl carboxylate chemical substances. Retrieved from <a href="http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPPT-2012-0268-0034">http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPPT-2012-0268-0034</a>

### 2.8. Noise.

### Requirement:

The structure and facilities shall be maintained so that the noise level in the interior of the dwelling unit caused by exterior sources is below 45 dB  $L_{dn}$  (day-night equivalent sound level).

### Stretch Provisions:

- Nighttime noise levels within bedrooms shall not exceed 30 dB LA<sub>ea</sub> measured over eight hours.
- HVAC equipment, including intermittent ventilation fans, shall operate at a noise level that creates no more than 45 dB L<sub>dn</sub> in habitable rooms.
- Wall and ceiling assemblies shall meet performance standards to attenuate exterior sound reaching occupants or be constructed using materials with sound-dampening acoustical properties.
- Roof material, chimney baffles, exterior doors, mail slots, attic ventilation ports, wall-mounted air conditioners, and other building components that have the potential to admit excessive noise shall be configured to minimize sound intrusion.
- Windows shall be sealed, made weathertight, and caulked to minimize sound intrusion when closed.

### Rationale:

The World Health Organization (WHO) has identified and documented seven categories of adverse health effects of noise pollution on humans: hearing impairment, speech intelligibility, disturbances in sleep and cardiovascular function; mental health, negative social behavior and annoyance reactions, and impaired task performance. The negative health impacts of noise are related to the total noise exposure experienced from all noise sources in the environment and can lead to a combination of these different negative impacts. Additionally, noise exposure disproportionately impacts certain segments of the population. Infants, children, those with mental or physical illnesses, and the elderly are particularly vulnerable to noise pollution.

### References:

- Berglund, B., Lindvall, T., & Schwela, D. (1999). *Guidelines for community noise*. Geneva: World Health Organization. Retrieved from <a href="https://www.who.int/docstore/peh/noise/guidelines2.html">who.int/docstore/peh/noise/guidelines2.html</a>
- Hagler, L. (1999). Summary of adverse health effects of noise pollution. Retrieved from <a href="http://www.noiseoff.org/document/who.summary.pdf">http://www.noiseoff.org/document/who.summary.pdf</a>
- Harris, D. A. (1997). Noise control manual for residential buildings. New York, NY: McGraw-Hill Professional.
- State of California. (1974). Health and safety code. §17922.6, Noise insulation standards.

### Resources:

- Standard for Maximum Interior Noise Level, 24 C.F.R. § 51.101(a)(9) (1998).
- U.S. Department of Housing and Urban Development. (n.d.). *Sound transmission class guidance*. Retrieved from http://portal.hud.gov/hudportal/documents/huddoc?id=DOC 16419.pdf

### 3. SAFETY AND PERSONAL SECURITY

### 3.1. Egress.

### Requirement:

In accordance with local fire codes, every dwelling unit shall have at least two means of egress that serve as emergency escapes and rescue openings. Each egress shall lead outside without passing through another dwelling unit.

- **3.1.1.** Egress routes shall be unobstructed. Doors along egress routes shall be openable from the inside without the use of a key or tool.
- **3.1.2.** Any bedroom located below the fourth floor shall be provided with an exterior window openable from the inside that can be used as a means of emergency egress.
- **3.1.3.** If a habitable room partly or totally below grade is intended for sleeping purposes, at least one exterior window shall be openable from the inside and accessible for easy and ready use as an emergency exit. The window shall have the following minimum dimensions: a net clear opening of 5.7 ft<sup>2</sup> (0.53 m<sup>2</sup>); 24 inches (61 cm) from the top of the sill to the bottom of head of the window frame; a width of 20 inches (51 cm); and a sill height of not more than 44 inches (112 cm) from the floor.
  - **3.1.3.1.** If the window opening sill height is below ground elevation, the horizontal dimension (width times projection) of the window well shall be at least nine ft<sup>2</sup> (0.84 m<sup>2</sup>) and the horizontal projection shall extend at least 36 inches (91 cm) from the exterior side of the window.
  - **3.1.3.2.** If the egress window well is deeper than 44 inches (112 cm) below ground elevation, there shall be steps or a ladder permanently attached to serve as an emergency exit to ground elevation. The distance between steps or rungs shall be 18 inches (46 cm), their width shall be at least 12 inches (31 cm), and their projection from the wall shall be between three and six inches (7.6 and 15 cm).
  - **3.1.3.3.** A door leading directly from the room to the outside that provides an exit at grade level shall fulfill this requirement.

### Rationale:

Escape from fire is an important public safety protection. Proper configuration of egress will prevent falls that can result in physical injury, such as bruising, fractures, head, brain, and spinal injuries; allow the timely evacuation of residents in an emergency; and permit entry by rescue workers wearing emergency equipment on their backs.

### References:

- International Code Council. (n.d.). *Accessible means of egress*. Retrieved from <a href="http://www.iccsafe.org/safety/">http://www.iccsafe.org/safety/</a> Documents/MeansofEgressBroch.pdf
- International Code Council. (2012). *International fire code*, Chapter 10.
- International Code Council. (2012). International residential code, §§ 310, 311.

### 3.2. Locks/Security.

### Requirement:

Means of egress (i.e., windows and/or doors) from dwellings shall have locks.

- **3.2.1.** Following each change in tenancy, the locking devices on the dwelling unit entry doors shall be changed.
- **3.2.2.** Dwelling unit entry doors shall be equipped with a dead bolt lock with a minimum throw of one inch (2.54 cm) that is capable of being opened from the interior side without a key and a device that permits the occupant to see a person at the entry door without fully opening the door.
- **3.2.3.** Exterior doors on multifamily buildings with a common entry that leads into a foyer or hallway shall have a self-closing mechanism and shall be equipped with a locking device capable of being opened from the interior side without a key.

**3.2.4.** Exterior windows that are capable of being opened and are potential means of entry shall be equipped with a lock on the interior side.

### Rationale:

Inadequate home security may result in a fear of a possible burglary occurrence or recurrence, stress caused by a burglary, and injuries caused to occupants by an intruder (aggravated burglary). The most common harm suffered as a result of burglary or fear of burglary is emotional stress. The emotional impact is greater for burglaries where there is successful entry to the dwelling. The risk of entry increases with declining levels of security.

### References:

• U.S. Department of Housing and Urban Development—Office of Healthy Homes and Lead Hazard Control. (2010). *Healthy home rating system—Operating guidance*. Retrieved from <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=operating guidance">http://portal.hud.gov/hudportal/documents/huddoc?id=operating guidance</a> hhrs v1.pdf

### 3.3. Smoke Alarm.

### Requirement:

Every dwelling unit shall have a functioning smoke alarm located on the ceiling outside each sleeping area in the immediate vicinity of the bedrooms, in each additional room used for sleeping purposes, and on every level except crawlspaces and uninhabitable attics. In dwellings or dwelling units with split levels that have no door between adjacent levels, the smoke alarm installed on the upper level shall suffice for the adjacent lower level. In the event a smoke alarm sounds, the cause of the alarm condition shall be identified and corrected.

- **3.3.1.** In multifamily housing, a tamper-proof smoke detection system (interconnected with a central fire alarm system) or stand-alone smoke alarms in good working condition shall be installed on each level including basements, in heating system and storage rooms, in garages, and in other common areas.
- **3.3.2.** Battery-operated smoke alarms and the battery backup for hardwired smoke alarms shall be powered with long-lasting batteries.
- **3.3.3.** Alternative visual notification shall be provided for hearing-impaired occupants.

### Stretch Provisions:

- Smoke alarms shall be hardwired with battery backup.
- Smoke alarm batteries shall be sealed-in and tamper-proof.
- Multiple smoke detection stations shall be interconnected.
- Every dwelling unit shall have both a photoelectric smoke alarm and an ionization smoke alarm.

### Rationale:

Smoke alarms that are properly installed and maintained play a vital role in reducing fire-related deaths and injuries. Having a working smoke alarm reduces the chances of dying in a reported fire by half. When smoke alarms fail to operate, it is usually because batteries are missing, disconnected, or dead. Research has demonstrated that almost one-quarter of smoke alarm failures were due to dead batteries. Interconnection of smoke alarms allows the warning to reach all occupants at the same time.

lonization smoke alarm sensors are best suited to detect smoke from highly combustible materials that can create flaming fires, such as flammable liquids, newspapers, and paint cleaning solutions. Photoelectric models are best suited for living rooms, bedrooms, and kitchens, which often contain large pieces of furniture, such as sofas, chairs, mattresses, countertops, et cetera, which will burn slowly and create more smoldering smoke than flames.

### References:

 Cleary, T. (2009). Performance of dual photoelectric/ionization smoke alarms in full-scale fire tests. Gaithersburg, MD: National Institute of Science and Technology Building and Fire Research Laboratory. Retrieved from <a href="http://www.nfpa.org/~/media/files/training/conference%20and%20expo/2009%20proceedings/performance\_of\_combination\_photelectric-ionization\_smoke\_ala.pdf">http://www.nfpa.org/~/media/files/training/conference%20and%20expo/2009%20proceedings/performance\_of\_combination\_photelectric-ionization\_smoke\_ala.pdf</a>

- International Code Council. (2012). International fire code, § 907.
- National Fire Protection Association. (n.d.). *Smoke alarm safety at home*. Retrieved from: <a href="http://www.nfpa.org/~/">http://www.nfpa.org/~/</a> media/files/safety%20information/safety%20tip%20sheets/smokealarmssafetytips.pdf

### 3.4. Fire Extinguisher.

### Requirement:

Fire extinguishers shall be rated Class ABC and shall be readily accessible.

- **3.4.1.** Each dwelling unit shall have at least one 10-pound fire extinguisher in good working condition in or near the kitchen
- **3.4.2.** In multifamily housing, there shall be fire extinguishers in common areas on each floor and in areas where flammable or combustible liquids are stored, used, or dispensed. The fire extinguishers shall be located in conspicuous, unobstructed locations that are not obscured from view.

### Stretch Provision:

• The dwelling shall have an automatic fire sprinkler system that complies with the applicable locally adopted fire code. If the local fire code has no sprinkler requirement or if no local fire code exists, the installed automatic fire sprinkler system shall comply with either the International Fire Code® or the National Fire Protection Association Standard 1.

### Rationale:

Cooking equipment is the second-leading cause of apartment or multifamily housing fire deaths, ranking only behind smoking. Kitchens are the leading area of origin for home structure fires: approximately two of every five (42 percent) home structure fires started in the kitchen or cooking area. Sixteen percent of the civilian deaths, 38 percent of the civilian injuries, and 14 percent of the direct property damage resulted from these fires. Two-thirds (66 percent) of the reported apartment or multifamily housing fires and one-third (33 percent) of the fires in one- or two-family homes originated in the kitchen. When an extinguisher is used, it put out the fire completely in half of the cases and minimized the fire but did not completely put it out in almost one-quarter of the incidents.

### References

• Ahrens, M. (2013). *Home fires involving cooking equipment*. National Fire Protection Association. Retrieved from http://www.nfpa.org/research/reports-and-statistics/fire-causes/appliances-and-equipment/cooking-equipment

### 3.5. Carbon Monoxide Alarm.

### Requirement:

Every dwelling unit shall have at least one functioning carbon monoxide (CO) alarm on every habitable floor and outside each separate sleeping area, in the immediate vicinity of every bedroom. In the event a CO alarm sounds, the cause of the alarm condition shall be identified and corrected.

- **3.5.1.** Battery-operated CO alarms shall be powered with long-lasting batteries. Hardwired CO alarms shall have long-lasting battery backup.
- **3.5.2.** Alternative visual notification shall be provided for hearing-impaired occupants.

### Stretch Provisions:

- CO alarms and combination smoke/CO alarms shall include voice notification.
- If a combination ionization sensor smoke/CO alarm is used, a second smoke alarm utilizing photoelectric smoke sensors shall be installed.
- CO alarm batteries shall be sealed-in and tamper-proof.
- CO present at or above 30 ppm (35 mg/m³) when measured over one hour, or above nine ppm (10.5 mg/m³) measured over eight hours, shall be deemed hazardous. The cause of a hazardous indoor CO level shall be investigated to identify and eliminate its source.

### Rationale:

CO is a colorless, odorless, and extremely toxic gas. Blood hemoglobin has a greater affinity for CO than it does for oxygen, which means that inhalation of this gas will reduce the ability of the blood to take up oxygen. At high concentrations, CO can cause unconsciousness and death. The highest rate of deaths from CO poisoning occurs in older age groups, especially in people aged 75-plus years. This may be for several reasons, including the increasing prevalence of cardiovascular illness and neurological decline at older ages and the fact that the elderly tend to spend a high proportion of their time at home indoors.

At lower concentrations, CO may cause a range of symptoms from headaches, dizziness, weakness, nausea, confusion, and disorientation to fatigue. These symptoms are sometimes confused with influenza and sometimes with depression. In people with ischemic heart disease, it can result in episodes of increased chest pain. CO may also impair fetal development. Those most vulnerable to ill health effects caused by low-level CO exposure include unborn children, infants, children, the elderly, and people with anemia or heart or lung disease.

### References:

- American Academy of Pediatrics Council on Environmental Health. (2012). Carbon monoxide, in Etzel R. A., ed. *Pediatric environmental health, 3rd edition*. Elk Grove Village, IL: American Academy of Pediatrics, 367–377.
- National Fire Protection Association. (2012, August 13-14). NFPA technical committee on residential occupancies, NFPA 101 and NFPA 5000 first draft meeting minutes. Retrieved from <a href="http://www.nfpa.org/assets/files/aboutthecodes/101/bld-saf-res\_fdminutes-08-12.pdf">http://www.nfpa.org/assets/files/aboutthecodes/101/bld-saf-res\_fdminutes-08-12.pdf</a>
- National Fire Protection Association. (2009). *NFPA 720, Standard for the installation of carbon monoxide (CO) detection and warning equipment.*
- Underwriters Laboratories. (2009). ANSI/UL 2034, Standard for single and multiple station carbon monoxide alarms.
- U.S. Consumer Product Safety Commission. (2001, January). CPSC recommends carbon monoxide alarm for every home. Retrieved from <a href="http://www.cpsc.gov/en/Recalls/2001/CPSC-Recommends-Carbon-Monoxide-Alarm-for-Every-Home/">http://www.cpsc.gov/en/Recalls/2001/CPSC-Recommends-Carbon-Monoxide-Alarm-for-Every-Home/</a>
- U.S. Consumer Product Safety Commission. (n.d.). Carbon monoxide questions and answers. <a href="http://www.cpsc.gov/en/Safety-Education-Centers/Carbon-Monoxide-Information-Center/Carbon-Monoxide-Questions-and-Answers-/">http://www.cpsc.gov/en/Safety-Education-Centers/Carbon-Monoxide-Information-Center/Carbon-Monoxide-Questions-and-Answers-/</a>
- U.S. Environmental Protection Agency. (n.d.). An introduction to indoor air quality (IAQ): Carbon monoxide. http://www.epa.gov/iaq/co.html
- World Health Organization. (2010). *Guidelines for indoor air quality: Selected pollutants*. Copenhagen: World Health Organization Regional Office for Europe. Retrieved from <a href="http://www.euro.who.int/\_\_data/assets/pdf">http://www.euro.who.int/\_\_data/assets/pdf</a> file/0009/128169/e94535.pdf

### 3.6. Walking Surfaces.

### Requirement:

Every interior and exterior stairway, ramp, deck, porch, and balcony shall be maintained structurally sound, in good repair, properly anchored, and capable of supporting the imposed loads.

- **3.6.1.** Treads on exterior stairways shall have nonskid surfaces.
- **3.6.2.** Every interior and exterior stairway with four or more risers shall have at least one structurally sound continuous handrail installed not less than 34 inches (86.7 cm) and not more than 38 inches (96.5 cm), measured vertically from above the nose of the tread. The handrail shall be firmly fastened, capable of supporting a load of 300 pounds, and in good condition. If a side of a stairway is open to the floor or grade below, and the handrail provides the guard required by Subsection 3.7, the rail shall be supported by balusters 34 to 38 inches (86.7 to 96.5 cm) in height, measured vertically from the nose of the tread.

### Stretch Provisions:

- Every interior and exterior stairway shall have uniform risers and treads. Risers shall be no higher than 7¾ inches (19.6 cm) and treads shall be at least 10 inches (25.4 cm) deep, unless the existing space and construction do not allow a reduction in pitch or slope.
- Interior and exterior stairways shall have handrails on both sides. Railings shall have a graspable perimeter measuring four to six inches (10–16 cm), and if noncircular in shape, shall have no sharp corners and a width no smaller than five-eighths inch (1.5 cm).

### Rationale:

Inadequate handrails and railings on stairways, ramps, decks, porches, and balconies can result in slips, trips, and falls that cause physical injury, such as bruising; fractures; head, brain, and spinal injuries; and death. The likelihood of a fall is doubled if there is no wall or guarding to one side of the stair. Similarly, the lack of any handrail doubles the likelihood of a fall, even if there is a wall to both sides of the stairs. Stair tread depth affects stability during stair descent. The nature of injury is in part dependent on the distance of a fall, and in part on the nature of the surface onto which the victim falls. Although falls on level ground tend to result in relatively minor injuries as compared to other falls, they occur more frequently.

### References:

- International Code Council. (2012). International residential code, §§ 311.7, 312.1.2, 312.1.3, 312.2.1.
- MetLife. (2013). *The essentials: Falls and fall prevention*. Retrieved from <a href="https://www.metlife.com/assets/cao/mmi/">https://www.metlife.com/assets/cao/mmi/</a> publications/essentials/mmi-falls-fall-prevention-essentials.pdf
- U.S. Department of Housing and Urban Development—Office of Healthy Homes and Lead Hazard Control. (2010). *Healthy home rating system—Operating guidance*. Retrieved from <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_hhrs\_v1.pdf">http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_hhrs\_v1.pdf</a>

### **Resources:**

• Roys, M. (2013). *Refurbishing stairs in dwellings to reduce the risk of falls and injuries*. Garston, U.K.: IHS Building Research Establishment Press.

### 3.7. Guards.

### Requirement:

- **3.7.1.** Every stairway, porch, patio, landing, and/or balcony located more than 30 inches (76.2 cm) above an adjacent area shall have a structurally sound guard between 30 inches (76.2 cm) and 42 inches (107 cm) high, measured vertically from the floor. The guard shall be firmly fastened, capable of supporting normally imposed loads, capable of being opened in case of emergency, and in good condition. Balusters with a minimum thickness of one-half inch (13 mm) shall be placed at intervals that do not allow passage of a sphere greater than four (10.2 cm) inches in diameter. There shall be no climbable cross pieces. If the balusters do not reach the floor, the narrowest opening between the bottom of the stair guard and the floor shall be a maximum of four inches (10.2 cm).
- **3.7.2.** If the vertical distance from the top of the sill of an exterior window opening to the finished grade or other surface below is greater than 72 inches (183 cm), and the vertical distance from the top of the sill to the floor of the room is less than 36 inches (91.5 cm), the window shall have a fall prevention device compliant with ASTM F2006 or ASTM F2090.
  - **3.7.2.1** The fall prevention device for a window that provides access to a fire escape or is otherwise designated for emergency egress shall be compliant with ASTM F2090.

### Rationale:

Falls can result in physical injury, such as bruising; fractures; and head, brain, and spinal injuries, as well as death. The nature of injury is in part dependent on the distance of a fall, and in part on the nature of the surface onto which the victim falls. Each year, 5,100 children younger than 18 years of age are treated in U.S. hospital emergency departments for injuries related to falls from windows. Such falls account for approximately eight deaths among children ages five and under each year. Falls from windows cause more severe injuries and deaths than any other

type of fall. A commercially available window guard designed to swing open to allow escape in the event of a fire costs as little as \$20. After window guard requirements took effect in Boston and New York City, the incidence of falls by children from windows decreased 96 percent over10 years.

### References:

- American Society of Testing and Materials. (2010). F2006, Standard safety specification for window fall prevention devices for non-emergency escape (egress) and rescue (ingress) windows.
- American Society of Testing and Materials. (2010). F2090, Standard specification for window fall prevention devices with emergency escape (egress) release mechanisms.
- City of New York. (2012, June). *Rules*. Title 24 §12, Window guard regulations. Retrieved from <a href="http://www.nyc.gov/html/doh/html/environmental/win-regs.shtml">http://www.nyc.gov/html/doh/html/environmental/win-regs.shtml</a>
- Harris, V., Rochette, L. M., and Smith, G. (2011, September). Pediatric injuries attributable to falls from windows in the United States 2001–2008. *Pediatrics*, 128, 455–462.
- International Code Council. (2012). International property maintenance code, § 307.1.
- International Code Council. (2013, April). Climbable guards. Retrieved from <a href="http://www.iccsafe.org/cs/CTC/">http://www.iccsafe.org/cs/CTC/</a>
  Documents/0413-meeting/ChildWindowSafety.pdf
- MetLife. (2013). *The essentials: Falls and fall prevention*. Retrieved from <a href="https://www.metlife.com/assets/cao/mmi/">https://www.metlife.com/assets/cao/mmi/</a> publications/essentials/mmi-falls-fall-prevention-essentials.pdf
- National Fire Protection Association. (2006). 101 Life safety code. § 7.2.2.4.5.3.
- Nationwide Children's Hospital. (n.d.). Window falls. http://www.nationwidechildrens.org/cirp-window-falls
- Roys, M. (2013). *Refurbishing stairs in dwellings to reduce the risk of falls and injuries.* Garston, U.K.: IHS Building Research Establishment Press.

### 3.8. Chemical Storage.

### Requirement:

- **3.8.1.** Each dwelling unit shall have a cabinet or other storage space that is lockable or not readily accessible to children for the storage of medicine and household chemical agents.
- **3.8.2.** Storage space for flammable and combustible liquids shall be available either in a building separate from the dwelling's habitable space or in an adjacent space that is not connected to the dwelling's ventilation system.

### Rationale:

Poison control centers answer more than 3.6 million calls each year, or one call every eight seconds. According to the American Association of Poison Control Centers, children younger than six years old account for about half of the calls placed to poison centers. A flammable or combustible liquid, gas, or associated piping or filter is the main contributor in four percent of fires and eight percent of fire-caused deaths.

### References:

- American Association of Poison Control Centers. (n.d.). www.aapcc.org
- U.S. Environmental Protection Agency, Poison Prevention Program. (n.d.). <a href="http://www.epa.gov/pesticides/">http://www.epa.gov/pesticides/</a> health/poisonprevention.htm

### 3.9. Pools, Hot Tubs, and Other Water Features.

### Requirement:

**3.9.1.** Swimming pools, hot tubs, spas (except a residential spa or hot tub with a safety cover complying with ASTM F 1346-91), ornamental ponds, and other water features that hold water more than 24 inches (61 cm) in depth shall be completely surrounded by a fence or barrier at least 48 inches (122 cm) in height above the finished ground level that is accessible only through a self-closing and self-latching gate. The gate's latch shall

be located 54 inches (137 cm) above the bottom of the gate on the interior side of the gate facing the water feature. The fence and gate shall not have climbable crosspieces.

- **3.9.2.** All pools and spas shall have anti-entrapment drain covers compliant with ANSI/ASME A112.19.8, ANSI/APSP 16-2011, or any successor standard on every suction outlet.
- **3.9.3.** Pool drains and drain covers shall be clearly visible and in good repair. Where there is a single main drain (other than an unblockable drain), a second anti-entrapment system shall be installed.
- **3.9.4.** Luminaries, receptacles, and other outlets shall have ground-fault circuit interrupter (GFCI) protection.

### Rationale:

It takes only inches of water for a small child to drown, so taking extra safety steps at home and around pools, spas, and all bodies of water can prevent drowning incidents. The majority of deaths and injuries in pools and spas involve children ages one to two and occur in residential settings. Drowning is the leading cause of unintentional death to children ages one to four and the second-leading cause of injury-related death in children aged one to 14 years in the U.S.

Children can become entrapped and held under water by suction openings in broken, uncovered, or poorly covered drains. Hair, jewelry, and bathing suit entanglement, as well as the lodging of arms, legs, fingers, or other body parts can pose entrapment hazards. Sitting on a broken or uncovered drain may cause evisceration injuries or disembowelment

### References:

- Consumer Product Safety Commission. (n.d.). *Requirements for public pools*. Retrieved from <a href="http://www.poolsafely.gov/industry-operators-professionals/public-pool-requirements/">http://www.poolsafely.gov/industry-operators-professionals/public-pool-requirements/</a>
- Consumer Product Safety Commission. (n.d.). *Safety barrier guidelines for residential pools*. Retrieved from http://www.poolsafely.gov/wp-content/uploads/362.pdf
- International Code Council. (2012). International property maintenance code, §§ 303, 605.3.
- International Code Council. (2012). *International residential code*, § E4203.
- Virginia Graeme Baker Pool and Spa Safety Act. 15 U.S.C. §§ 8001–8008. (2007).

### 4. LIGHTING AND ELECTRICAL SYSTEMS

### 4.1. Electrical System.

### Requirement:

Every dwelling unit shall have electric service, outlets, and fixtures that are grounded and installed properly, maintained in good and safe working condition, and connected to a source of electric power.

- **4.1.1.** Every dwelling unit shall be supplied with a three-wire, 120/240-volt, single-phase electrical service that is not shared with another dwelling unit.
- **4.1.2.** Temporary wiring or extension cords shall not be used as permanent wiring.

### Stretch Provision:

• The electrical service shall have a rating of not less than 100 amperes.

### Rationale

Faulty electrical systems result in fires, damage to property, burns, injuries, and death. In residential settings, children are more likely to be injured than adults, primarily from inserting household objects into electrical outlets.

### References:

- Electrical Safety Foundation International. (n.d.). *Electrical safety workbook: A guide to understanding and maintaining your home's electrical system*. Retrieved from <a href="https://www.esfi.org">www.esfi.org</a>
- U.S. Fire Administration. (n.d.). Electrical fire safety outreach materials. Retrieved from <a href="http://www.usfa.fema.gov/citizens/home\_fire\_prev/electrical.shtm">http://www.usfa.fema.gov/citizens/home\_fire\_prev/electrical.shtm</a>

### 4.2. Outlets.

### Requirement:

Every habitable room shall have at least two separate and remote grounded duplex electric receptacle outlets.

- **4.2.1.** Each kitchen and each room containing a toilet, sink, bathtub, or shower stall shall have at least one grounded duplex electric receptacle outlet protected by ground-fault circuit interrupter (GFCI).
- **4.2.2.** Receptacle outlets in garages, crawl spaces, unfinished basements, and outdoors shall be protected by GFCIs.

### Stretch Provisions:

- Habitable rooms shall have sufficient receptacle outlets so that no location on a wall is more than six feet from an outlet.
- Every countertop space 12 inches (305 mm) or wider shall have a grounded duplex electric convenience receptacle outlet protected by a GFCI. No section of counter shall be more than 24 inches (610 mm) measured horizontally from an outlet.
- Receptacle outlets in habitable rooms that are not protected by GFCIs shall be protected by arc-fault circuit interrupters (AFCIs).

### Rationale:

Unlike circuit breakers and fuses, GFCIs are installed to protect the user from electrocution. These devices provide protection against electrical shock and electrocution from ground faults or contact with live parts by a grounded individual. They constantly monitor electrical currents flowing into a product. If the electricity flowing through the product differs even slightly from that returning, the GFCI will quickly shut off the current. GFCIs detect amounts of electricity much smaller than those required for a fuse or circuit breaker to activate and shut off the circuit. UL lists three types of GFCIs designed for home use that are readily available, fairly inexpensive, and simple to install. AFCIs prevent electrical fires by protecting branch circuits.

### References:

- International Code Council. (2012). International residential code. § E3901, E3902.1.
- National Fire Protection Association. (2013). *Standard 70, national electrical code.* Retrieved from <a href="http://www.nfpa.org/70">http://www.nfpa.org/70</a>
- U.S. Centers for Disease Control and Prevention & U.S. Department of Housing and Urban Development. (2006). Healthy housing reference manual. Retrieved from www.cdc.gov/nceh/publications/books/housing/housing.htm

### 4.3. Natural Lighting.

### Requirement:

Every habitable room shall receive daylight from at least one exterior window or skylight.

- **4.3.1.** If a habitable room receives daylight from an adjacent room or area used seasonally, such as a porch, the daylight through this interconnection shall be available year-round.
- **4.3.2.** Every bathroom and kitchen shall comply with the daylight requirement for habitable rooms contained in this section, unless the room is equipped with a ventilation system consistent with Subsection 5.3.

### Rationale:

Research has revealed a strong relationship between light and human physiology. The effects of light on both the human eye and human skin are notable. Light allows us to see and affects body rhythms and psychological health. Lack of natural lighting has been linked to depression.

### References:

- International Code Council. (2012). International property maintenance code, § 402.1, 403.2.
- U.S. Centers for Disease Control & Prevention and U.S. Department of Housing and Urban Development. (2006.) Healthy housing reference manual. Retrieved from www.cdc.gov/nceh/publications/books/housing/housing.htm
- U.S. Department of Housing and Urban Development—Office of Healthy Homes and Lead Hazard Control. (2010). *Healthy home rating system—Operating guidance*. Retrieved from <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=operating guidance">http://portal.hud.gov/hudportal/documents/huddoc?id=operating guidance</a> hhrs v1.pdf

### 4.4. Artificial Lighting.

### Requirement:

Each room containing a toilet, sink, bathtub, or shower stall shall contain at least one ceiling- or wall-type electric lighting fixture. Each non-habitable room, including laundry rooms, furnace rooms, and public halls, shall contain at least one ceiling- or wall-type electric lighting fixture.

- **4.4.1.** Light switches that control ceiling- or wall-type electric light fixtures shall be located conveniently for safe use.
- **4.4.2.** Every public hall, exterior entry door, and stairway in multifamily housing shall be illuminated at all times by ceiling- or wall-type electric lighting fixtures providing 800 lumens for every 200 ft<sup>2</sup> (18.6 m<sup>2</sup>) of floor area. The distance between light fixtures shall not be greater than 30 feet (762 cm).
- **4.4.3.** In a building containing one or two dwelling units, every public hall, exterior entry door, and stairway shall be illuminated by ceiling- or wall-type electric lighting fixtures providing 800 lumens for every 200 ft<sup>2</sup> (18.6 m<sup>2</sup>) of floor area that is controlled by a three-way switch or a motion-activated device.

### Stretch Provisions:

• Polychlorinated-biphenyl (PCB)-containing lighting ballasts (e.g., older pre-1978 T-12 lighting ballasts) shall be removed, replaced with lighting fixtures that do not contain PCBs, and disposed of in accordance with applicable state and federal regulations.

- The lighting fixtures in public halls, stairways, and entries shall provide 1600 lumens for every 200 ft<sup>2</sup> (18.6 m<sup>2</sup>) of floor area.
- The parking areas and walkways of multifamily housing shall be illuminated by outdoor lighting devices suitable for the premises.

### Rationale:

Adequate lighting is important in allowing people to see unsanitary conditions and to prevent injury, thus contributing to a healthier and safer environment. Improper indoor lighting can also contribute to eyestrain from inadequate illumination, glare, and flicker. Artificial light is particularly important where domestic tasks require adequate light; for example, in the kitchen over worktops, sinks, and ranges.

### References:

- International Code Council. (2012). International property maintenance code, § 402.2.
- U.S. Centers for Disease Control and Prevention and U.S. Department of Housing and Urban Development. (2006). *Healthy housing reference manual*. Retrieved from <a href="https://www.cdc.gov/nceh/publications/books/housing/housing.htm">www.cdc.gov/nceh/publications/books/housing/housing.htm</a>
- U.S. Department of Housing and Urban Development—Office of Healthy Homes and Lead Hazard Control. (2010). *Healthy home rating system—Operating guidance*. Retrieved from <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_hhrs\_v1.pdf">http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_hhrs\_v1.pdf</a>
- U.S. Environmental Protection Agency. (2012). *Polychlorinated biphenyls (PCBs) manufacturing, processing, distribution in commerce, and use prohibitions*. Retrieved from www.epa.gov/pcb
- U.S. Environmental Protection Agency. (n.d.). Compact fluorescent light bulbs. Retrieved from http://www2.epa.gov/cfl

### 5. THERMAL COMFORT, VENTILATION, AND ENERGY EFFICIENCY

### 5.1. Heating, Ventilation, and Air Conditioning Systems.

### Requirement:

Facilities for heating, cooling, ventilation, and humidity control shall be maintained in good working condition and operated when necessary for the health and comfort of the occupants and in accordance with the design capacity of the installed equipment. Within 48 hours after equipment has become inoperative due to a mechanical problem or power failure other than a utility outage, an alternative safe source of necessary heating, ventilating, or cooling shall be provided.

### 5.2. Heating System.

### Requirement:

Except in Climate Zone 1, every dwelling shall have a properly installed heating system in good and safe working condition that is capable of safely and adequately heating all habitable rooms, bathrooms, and toilet rooms. The heating system, filtration components, distribution components, heating elements, and cooling elements (if provided), shall be sealed, cleaned, maintained, and operated in accordance with manufacturer specifications and shall be inspected and serviced annually by a licensed heating, ventilation, and air conditioning systems contractor.

- **5.2.1. Venting and Air Supply for Heating Equipment.** Furnaces, water heaters, wood stoves, and other devices that employ combustion-burning fuel shall be vented to the outside of the structure in an approved manner that meets manufacturer specifications and is in compliance with applicable codes and standards (e.g., ANSI 223.1/NFPA 54 National Fuel Gas Code, NFPA 31 Standard for the Installation of Oil-Burning Equipment, NFPA 211 Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances) and shall be supplied with sufficient air to support the continuous complete combustion of fuel and prevent backdrafting.
- **5.2.2. Minimum Heat Temperature.** The heating system shall be capable of maintaining a minimum room temperature of 68° F (20° C) in every habitable room, bathroom, and toilet room.
- **5.2.3. Heating Supply.** If the dwelling unit is rented, leased, or let on terms either expressed or implied that heat will be supplied, heat shall be provided to maintain a minimum temperature of 68° F (20° C) in habitable rooms, bathrooms, and toilet rooms; and at no time during the heating season shall the system allow the temperature to exceed 78° F (25° C) in any room.
- **5.2.4. Forced-Air Systems.** Any dwelling with a forced-air system shall have at least one thermostat within each dwelling unit capable of controlling the heating system, and cooling system if provided, to maintain temperature set point between 55° F (13° C) and 85° F (29° C) at different times of the day. The system shall have a clean air filter installed in accordance with manufacturer specifications at each change in tenancy and at least annually. This filter shall have a minimum efficiency reporting value of eight (MERV-8) unless the system is not equipped to use a MERV-8 filter.
- **5.2.5. Steam and Hot Water Systems.** In dwellings with heating equipment utilizing steam or hot water with a temperature of 110° F (43° C) or greater, protective covers/barriers shall be installed on and maintained for exposed surfaces of baseboard units, radiators, and piping between radiators.
- **5.2.6. Wood Stoves.** A wood stove manufactured after June, 1988 shall have a manufacturer's label certifying compliance with the emission standard at 40 C.F.R. § 60 part AAA. Clearance of 30 inches (76 cm) shall be maintained between combustible materials and a stove with no heat shield. Where a heat shield is present, the clearance between combustible materials and the stove shall be compliant with manufacturer specification for the heat shield.

### Stretch Provisions:

- Any new combustion heating equipment installed in occupied or conditioned spaces shall be power-vented or sealed (direct-vented) combustion equipment.
- The heating system shall be controlled by a programmable thermostat to avoid temperature extremes.

- The dwelling shall have provisions to maintain the indoor temperature below a maximum of 85° F (29° C) through the use of mechanical air conditioning, ventilation systems, or passive design features.
- Air filters shall be replaced at least every three months.

### Rationale:

Exposure to cold temperatures can lead to hypothermia, frostbite, and death. There is a continuous relationship between indoor temperature and vulnerability to cold-related death. As temperatures rise, thermal stress increases, initially triggering the body's defense mechanisms, such as sweating. High temperatures can increase dehydration, cardiovascular strain, and trauma, and, when temperatures exceed 77° F (25° C), cause mortality and stroke.

Poorly maintained HVAC systems may pose safety risks, including fire and explosion hazards and exposure to combustion-related chemical and physical agents, such as carbon monoxide and particulate matter. Exposure to carbon monoxide can lead to headaches, nervous systems effects, and asphyxiation.

### References:

- Anderson, G. B., Dominici, F., Wang, Y., McCormack, M. C., Bell, M. L., & Peng, R. D. (2013). Heat-related emergency
  hospitalizations for respiratory diseases in the Medicare population. *American Journal of Respiratory and Critical Care*Medicine, 187(10), 1098-1103. Retrieved from http://www.atsjournals.org/doi/abs/10.1164/rccm.201211-1969OC
- International Code Council. (2009). International energy conservation code, Table 402.1.1.
- International Code Council. (2012) International property maintenance code. §§ 603.2, 603.5, 602.2.2, 602.2.3.
- Ostro, B., Rauch, S., Green, R., Malig, B. & Basu, R. (2010). The effects of temperature and use of air conditioning on hospitalizations. *American Journal of Epidemiology*, 172(9), 1053–1061. Retrieved from <a href="http://aje.oxfordjournals.org/content/172/9/1053.abstract?sid=d5111b06-c02a-4bd4-863a-27ba95c0a75a">http://aje.oxfordjournals.org/content/172/9/1053.abstract?sid=d5111b06-c02a-4bd4-863a-27ba95c0a75a</a>
- Standards of Performance for New Residential Wood Heaters, 40 C.F.R. 60 Subpart AAA (1988).
- U.S. Department of Housing and Urban Development—Office of Healthy Homes and Lead Hazard Control. (2010). *Healthy home rating system—Operating guidance*. Retrieved from <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=operating guidance">http://portal.hud.gov/hudportal/documents/huddoc?id=operating guidance</a> hhrs v1.pdf
- U.S. Environmental Protection Agency. (n.d.). An introduction to indoor air quality (IAQ): Carbon monoxide (CO). http://www.epa.gov/iaq/co.html

### Resources:

- Air Conditioning Contractors of America. (2010). *HVAC quality installation specification, ANSI/ACCA 9.* Retrieved from https://www.acca.org/Files/?id=693
- Building Performance Institute. (2012). *Home energy auditing standard, BPI-1100-T-2012*. <a href="http://www.bpi.org/files/pdf/BPI-1100-T-2012\_Home%20\_Energy\_Auditing\_Standard.pdf">http://www.bpi.org/files/pdf/BPI-1100-T-2012\_Home%20\_Energy\_Auditing\_Standard.pdf</a>
- Department of Energy and National Renewable Energy Laboratory. Heating and cooling, forced air, system assessment and maintenance. *Standard work specifications*. Retrieved from https://sws.nrel.gov/spec/53003
- National Air Duct Cleaners Association. (2013). ACR, the NADCA standard for assessment, cleaning, and restoration of HVAC systems. Retrieved from http://info.associationheadquarters.com/2013-acr
- U.S. Environmental Protection Agency. (n.d.). Wood heater compliance monitoring program. Retrieved from http://www.epa.gov/oecaerth/monitoring/programs/caa/woodheaters.html
- U.S. Environmental Protection Agency. (n.d.). Remodeling your home? Have you considered indoor air quality? Combustion appliance backdrafting. Retrieved from http://www.epa.gov/iag/homes/hipbackdrafting

### 5.3. Ventilation.

### Requirement:

Natural or mechanical ventilation, or a combination of the two, shall deliver fresh air to every habitable room and bathroom and be capable of removing moisture-laden air and other contaminants generated during cooking, bathing, and showering.

- **5.3.1.** Every dwelling shall have a ventilation system compliant with ASHRAE Standard 62.2 (Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings) or ASHRAE 62.1 (Ventilation for Acceptable Indoor Air Quality) as applicable to the dwelling.
- **5.3.2.** The air exhausted from a bathroom, toilet room, kitchen, clothes dryer, or basement shall not be vented into any other parts of the building's habitable space or an attic; such air shall discharge directly to the outdoors but not near any intake on the building exterior.
  - **5.3.2.1.** The exhaust vent from a clothes dryer shall consist of a rigid or corrugated semi-rigid metal duct.
- **5.3.3.** Pipes, ducts, conductors, fans, and blowers shall not discharge gases, steam, vapor, hot air, grease, smoke, odors, or other gaseous or particulate wastes directly upon abutting or adjacent public or private property or that of another occupant. Vent pipe openings and any pest-proofing screens that cover them shall be maintained free of debris.
- **5.3.4.** Basement air shall not be used as supply air for an air handling system.

### Stretch Provision:

• HVAC equipment shall have the capacity to maintain indoor relative humidity (RH) at or below 60 percent.

### Rationale:

Proper circulation of outdoor ventilation air throughout a habitable space, naturally through openings in the building envelope and/or mechanically using fans and HVAC systems, is important to dilute and remove airborne indoor chemical agents, and reduce airborne transmission of biological agents, humidity, and mold. Inadequate ventilation also increases carbon dioxide in habitable spaces, which may yield drowsiness and headaches and can result in elevated levels of volatile organic chemicals that off-gas from interior dwelling components. Inadequate ventilation also increases interior humidity. Studies show the association between dampness and poor health. Damp environments are associated with the growth of dust mites, cockroaches, and mold. Some of the health effects include worsened asthma, wheezing, nausea and vomiting, headaches, fever, and diarrhea. Inadequately maintained or operated HVAC systems can lead to microbial growth.

### References

- American Society of Heating, Refrigerating, and Air-Conditioning Engineers. (2013). 62.1-1 Standard, Ventilation
  and acceptable indoor air quality. Retrieved from <a href="https://www.ashrae.org/resources--publications/bookstore/standards-62-1--62-2">https://www.ashrae.org/resources--publications/bookstore/standards-62-1--62-2</a>
- International Code Council. (2009). *International energy conservation code*. Table 301.1 and Figure 301.1. Retrieved from http://energycode.pnl.gov/EnergyCodeRegs/
- International Code Council. (2012). International property maintenance code. §§ 403.1, 403.2, 403.5, 302.6.
- Krieger, J., & Higgins, D. L. (2002, May). Housing and health: Time again for public health action. *American Journal of Public Health*, *92*(5), 758–768.
- National Institute for Occupational Safety and Health. (n.d.). Indoor environmental quality. Retrieved from http://www.cdc.gov/niosh/topics/indoorenv/buildingventilation.html

- U.S. Environmental Protection Agency. (n.d.). Indoor airPLUS program. Retrieved from http://epa.gov/iaplus01/
- Wisconsin Department of Public Health Services. (n.d.). Carbon dioxide fact sheet. Retrieved from <a href="http://www.dhs.wisconsin.gov/eh/chemfs/fs/carbondioxide.htm">http://www.dhs.wisconsin.gov/eh/chemfs/fs/carbondioxide.htm</a>

### Resources

• Enterprise Community Partners. (2011). 2011 Enterprise green communities criteria, 92–94. Retrieved from http://www.enterprisecommunity.com/servlet/servlet.FileDownload?file=00Pa000000FxwvNEAR

### 5.4. Air Sealing.

### Requirement:

Openings into dwellings and dwelling units shall be sealed to limit uncontrolled air movement.

- **5.4.1.** Exterior doors, windows and skylights, openings where siding and chimneys meet, utility penetrations, electrical outlets, and other openings shall be weathertight.
  - **5.4.1.1.** Pads, door sweeps, weather stripping, and seals shall be used and maintained to minimize air leaks.
- **5.4.2.** Openings separating an attached garage from a habitable room, including doors, ceilings, floors, and utility and ductwork penetrations, shall be sealed.
  - **5.4.2.1.** Any doorway between a habitable room and a garage shall be equipped with a wood door not less than 1% inches (35 mm) in thickness, a solid or honeycomb core steel door not less than 1% inches (35 mm) thick, or a 20-minute fire-rated door. The door shall have an automatic closing mechanism and be sealed with weather stripping.
  - **5.4.2.2.** There shall be no door, window, or other opening from a garage into a room used for sleeping purposes.
- **5.4.3.** Heating and air conditioning system ductwork and air handling units located in an attached garage shall be correctly insulated and sealed.
  - **5.4.3.1.** There shall be no supply or return vent openings in a garage that connect to air handlers serving habitable spaces.
- **5.4.4.** In a multifamily building, walls, ceilings, and floors that separate a dwelling unit from neighboring units, corridors, chases, stairwells, and other openings shall be sealed.

### Stretch Provision:

 Air handling equipment and associated ductwork shall be relocated from a garage to an area within the conditioned space.

### Rationale:

Controlling air leakage into homes can save the occupant money by making the home energy efficient and can prevent health problems associated with moisture. Airborne moisture can lead to mold growth, which causes respiratory distress in children and adults, including those with asthma, allergies, or other respiratory diseases. Airsealing and isolation of attached garages is important to prevent migration of carbon monoxide and other airborne chemical agents (e.g., from vehicle exhaust, fuels, solvents, and other chemicals stored or used in the garage) into habitable rooms. Sealing of each unit can help prevent migration of smoke, cooking odors, noise, radon, pests, and other elements into the dwelling unit.

### References:

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#### 6. MOISTURE CONTROL, SOLID WASTE, AND PEST MANAGEMENT

#### 6.1. Moisture Prevention and Control.

#### Requirement:

Every foundation, roof, roofing component, exterior wall, door, skylight, and window shall be watertight, weathertight, free of persistent dampness or moisture, and in good condition.

- **6.1.1.** The building's drainage system, such as footing or foundation drains, gutters, downspouts, rainwater collection containers, or other elements, shall direct water away from the structure.
- **6.1.2.** Exterior wood surfaces shall be protected from the elements and decay by paint or other protective treatment. Weep holes in brickwork shall be left open.
- **6.1.3.** Premises shall be graded and maintained to prevent the erosion of soil and to prevent the accumulation of water on the premises, within a crawlspace, or within the structure.
- **6.1.4.** Interior and exterior surfaces and surface coverings, such as but not limited to carpet, wood, cellulose insulation, and paper, paint, and other wall coverings, including paper-faced gypsum board, shall have no signs of visible mold growth or chronic or persistent excessive dampness or moisture.
- **6.1.5.** Building material that is discolored or deteriorated by mold or mildew or causes a moldy or earthy odor shall be cleaned, dried, and repaired. Structurally unsound material shall be removed and replaced.
  - **6.1.5.1.** Removal and repair of moldy material shall be conducted in accordance with New York City's *Guidelines on Assessment and Remediation of Fungi in Indoor Environments*, the Institute of Inspection, Cleaning, and Restoration Certification's *IICRC S520 Standard and Reference Guide for Professional Mold Remediation*, or the EPA guidelines for *Mold Remediation in Schools and Commercial Buildings*.
- **6.1.6.** The underlying cause of excessive dampness or moisture or moldy or earthy odor shall be investigated and corrected.
- **6.1.7.** Cold HVAC and plumbing components and systems (e.g., chilled-water pipes and valves, refrigerant piping, and valves) in readily accessible locations shall be sufficiently and continuously insulated to keep the temperature of their surfaces at least 10° F (4° C) above the dew point of the surrounding air.
- **6.1.8.** Unless the crawl space is sealed and insulated from the outdoors, the crawl space shall be free of high-moisture conditions or be separated from the dwelling by an air seal or other method suitable to the climate and conditions.

#### Stretch Provisions:

- Exterior weather-resistant barrier systems shall be used to reduce potential for water leaks and moisture intrusion.
- Water/mold-resistant materials shall be used on bathroom walls and floors, showers, and other areas of the home that are likely to be exposed to moisture.
- In warm-humid and mixed-humid climates:
  - Exterior wall insulations shall not include a vapor barrier/retarder material on the interior side (such as
    plastic sheeting or foil facing), with the exception of closed-cell foam insulation (spray or rigid), kraft-faced
    insulation, and seasonally adjusting membranes.
  - There shall be no vinyl wallpaper or other impermeable interior finish on the interior surface of exterior walls within an air-conditioned dwelling.
  - Exterior drainable rigid insulation systems shall be used to reduce wall assembly condensation risk.
- The building and its systems shall meet the following moisture management criteria:
  - When the building is being mechanically cooled, ventilation air shall be dried to a dew point value below the building's dew point.

- Condensation inside HVAC components and air distribution ductwork shall be drained to an appropriate sanitary drain or condensate collection system.
- Indoor surfaces of both occupied and unoccupied spaces shall not be cooled to temperatures so low as
  to create an average surface relative humidity (RH) of over 80 percent that lasts for more than 30 days on
  visible surfaces in occupied spaces and surfaces inside building cavities and unconditioned space.
- Indoor dew point shall be low enough to ensure no condensation occurs on the exposed surfaces of cool HVAC components or on building materials or furnishings.
- Humidifiers shall be sized, installed, and controlled so they do not overload the air with humidity, which
  increases the risk of condensation inside air distribution systems and exterior walls and roofing assemblies.

#### Rationale:

Damp indoor environments can increase the presence of biological agents such as mold, dust mites, and bacteria. These environments may also attract pests and cause building materials to deteriorate. Exposure to allergens can trigger allergic symptoms such as rhinitis, conjunctivitis, eczema, cough, and wheeze. For a sensitized person, repeated exposure can lead to asthma, and it appears that the severity of the asthma intensifies with increasing humidity, house dust mite, and mold levels. There is an association between dampness and upper respiratory tract symptoms, cough, wheeze, and asthma symptoms in sensitized persons. In addition there is limited or suggestive evidence that damp indoor environments are associated with dyspnea, lower respiratory illness in children, and asthma development.

Some fungi, particularly when in very high concentrations, can also colonize the airways of susceptible individuals, particularly asthmatics. Toxins from some molds (mycotoxins) can cause nausea and diarrhea, can suppress the immune system, and have been implicated in cases of pulmonary hemorrhage.

#### References:

- American Society of Heating, Refrigerating, and Air-Conditioning Engineers. (2012). Position document on limiting indoor mold and dampness in buildings. Retrieved from <a href="https://www.ashrae.org/File%20Library/docLib/About%20">https://www.ashrae.org/File%20Library/docLib/About%20</a> Us/PositionDocuments/Position-Document---Limiting-Indoor-Mold-and-Dampness-in-Buildings.pdf
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#### 6.2. Solid Waste.

#### Requirement:

Every dwelling shall have adequate facilities for temporary storage of trash and recyclable materials.

- **6.2.1.** There shall be trash containers outside the dwelling for the storage of trash awaiting collection or disposal. The total capacity of these facilities shall be sufficient to store occupants' trash between scheduled collection times, and shall be placed on a cleanable surface constructed to minimize spillage.
- **6.2.2.** There shall be containers outside the dwelling for recyclable materials awaiting collection, with capacity sufficient to store occupants' recyclable materials between scheduled collection times.

#### Stretch Provision:

• Exterior trash and recycling containers shall be placed at least 30 feet (nine meters) from the building, unless such space is not available.

#### Rationale:

In 2010, Americans generated about 250 million tons of trash and recycled and composted over 85 million tons of this material, equivalent to a 34.1 percent recycling rate. On average, we recycled and composted 1.51 pounds of our individual waste generation of 4.43 pounds per person per day. The risk that poorly stored or accumulated solid waste poses to health is difficult to quantify as little epidemiological work in this area has been reported recently. The potential health outcomes may include gastrointestinal disease (from spread of infection) and asthma and allergic rhinitis (from allergens). Household waste may, in addition, present a physical hazard of cuts to young children. Emotional distress is also commonly associated with pest infestations and accumulations of solid waste. Establishing solid waste collection, storage, and disposal provisions helps reduce pest infestations, the growth and spread of biological agents, odor emissions, and windblown litter.

#### References:

- U.S. Department of Housing and Urban Development—Office of Healthy Homes and Lead Hazard Control. (2010). Healthy home rating system—Operating guidance. Retrieved from <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_hhrs\_v1.pdf">http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_hhrs\_v1.pdf</a>
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#### 6.3. Pest Management.

#### Requirement:

Integrated pest management (IPM) methods shall be used to maintain every dwelling free of infestation, openings that allow pest entry, conditions that harbor pests or provide them with food or water, and visible pest residue or debris.

- **6.3.1.** A pest management professional who has an IPM certification or a person trained in IPM shall develop the IPM program for a multifamily building.
- **6.3.2.** Every dwelling, premise, accessory structure, and fence shall be maintained in good repair, free of pest infestation, and inspected for pests and building conditions that attract and support pests.
  - **6.3.2.1.** There shall be no accumulation of trash, paper, boxes, lumber, scrap metal, food, or other materials that support rodent harborage in or about any dwelling or premises. Stored materials shall be placed in boxes or stacked in stable piles elevated at least six inches (152 mm) above the ground or floor and at least six inches (152 mm) from the walls. Stored materials shall not block any egress routes.
  - **6.3.2.2.** There shall be no trees, shrubs, or other plantings in the soil within six inches (152 mm) of any dwelling.
  - **6.3.2.3.** There shall be no accumulation of water in or about any dwelling or premises.
- **6.3.3.** Every openable window and storm door shall be supplied with adequate screens to prevent the entry of pests.
- **6.3.4.** There shall be no holes or open joints in exterior walls, foundations, slabs, floors, or roofs that equal or exceed one-eighth inch (3 mm).
  - **6.3.4.1.** The areas surrounding windows, doors, pipes, drains, wires, conduits, vents, and other openings that penetrate exterior walls shall be sealed with low-VOC caulk or closed cell insulation.
- **6.3.5.** Pest infestation and the underlying cause shall be eliminated using control methods consistent with IPM, such as exclusion, sanitation, and least-risk pesticides scaled to and designed for the targeted infestation.
- **6.3.5.1.** Foggers and organic phosphates shall not be used to control or eliminate pests.

#### Rationale:

Poorly stored food waste will attract pests. These pests may then come into contact with food before it is prepared or eaten or may come into direct contact with persons. Rodents have long been linked to property destruction and disease. Rodents are known to be infected with pathogenic organisms, including zoonotic agents such as *Yersinia entercolitica* (Yersiniosis), *Listeria spp* (Listeriosis), *Cryptosporidium parvum* (Cryptosporidiosis), *Toxoplasmagondii* (Toxoplasmosis), *Leptospira spp* (Leptospiral Jaundice or Weil's disease), *Trichinella spiralis*, and *Trichuris spp* (Whipworm infection). Proper food storage, rat-proofing construction, and ensuring good sanitation outside the home have served to eliminate or reduce rodent problems in the 21st century home.

Children who live in dwellings infested with cockroaches show high levels of sensitivity to cockroach allergen. Contact with cockroaches can cause dermatitis, uticaria, rhinitis, bronchitis, and asthma. Some people have an aversion to insects amounting to a phobia and can suffer anxiety when in the presence of the insects. Bed bugs are pests of significant public health importance, as are mosquitoes, fleas, and other insects.

Integrated pest management (IPM) is the best way to prevent and eliminate pests while preventing unnecessary occupant inhalation and ingestion of poisonous pesticide chemicals. Total release foggers are ineffective as methods in controlling most pests, often counteract less toxic strategies, and can result in resident exposure to toxic chemical agents, and if misused can cause fires, other destruction of property, and loss of life.

Certified pest management professionals (PMPs) with knowledge and experience of IPM, and other individuals trained in IPM, can be critical resources for buildings owners and managers.

#### References:

- U.S. Department of Housing and Urban Development—Office of Healthy Homes and Lead Hazard Control. (2010). *Healthy home rating system—Operating guidance*. Retrieved from <a href="http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_hhrs\_v1.pdf">http://portal.hud.gov/hudportal/documents/huddoc?id=operating\_guidance\_hhrs\_v1.pdf</a>
- U.S. Environmental Protection Agency. (n.d.). Pesticides: Controlling pests: Controlling rodents. Retrieved from http://www.epa.gov/pesticides/controlling/rodents.htm

#### Resources:

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#### 7. CHEMICAL AND RADIOLOGICAL AGENTS

#### 7.1. General Requirements.

#### Requirement:

All chemical and radiological agents in dwellings, premises, and accessory structures, including but not limited to deteriorated lead-based paint, friable asbestos-containing material, formaldehyde, volatile organic compounds, radon, pesticides, and methamphetamine, shall be contained, stored, removed, or mitigated in a safe and healthy manner consistent with federal, state, and local laws and regulations. When an applicable regulatory limit is more protective than the level included in this section, the more restrictive limit shall apply.

#### 7.2. Lead-Based Paint.

#### Requirement:

- **7.2.1.** Lead levels at or above federal regulatory limits pursuant to 40 C.F.R. § 745.65 are deemed hazardous: (1) lead-based paint on an existing painted surface—0.5 percent by weight or 1.0 milligrams per square centimeter; (2) dust on floors—40 micrograms of lead per square foot of settled dust ( $\mu$ g/ft²); (3) dust on interior window sills—250  $\mu$ g/ft²; (4) dust on window troughs (wells)—400  $\mu$ g/ft²; (5) bare soil in children's play areas—400 parts per million (ppm) of lead; and (6) bare soil in areas of the yard that are not children's play areas—1,200 ppm.
- **7.2.2.** Painted surfaces shall be maintained intact. With the exception of paint that is tested and found not to contain lead-based paint in accordance with 40 C.F.R. § 745.82(a), deteriorated paint at a property built before 1978 shall be repaired in accordance with the renovation requirements of 40 C.F.R. § 745 Subpart E, and the underlying cause of the deterioration shall be corrected.
- **7.2.3.** All renovation, repair, and painting work that disturbs a painted surface in a pre-1978 dwelling shall be performed in accordance with the renovation requirements of 40 C.F.R. § 745, Subpart E, unless the paint has been tested and found not to contain lead-based paint in accordance with 40 C.F.R. § 745.82(a). Dust clearance testing shall be performed at the conclusion of renovation work.
- **7.2.4.** With the exception of paint that is tested and found not to contain lead-based paint in accordance with 40 C.F.R. § 745.82(a), a painted surface shall not be disturbed using methods that involve (1) open-flame burning or torching or operating a heat gun at temperatures above a maximum of 1,100° F (593° C); or (2) power sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting unless such machines have shrouds or containment systems and a High-Efficiency Particulate Air (HEPA) vacuum attachment that collects dust and debris at the point of generation. The shroud or containment system shall release no visible dust or air outside the shroud or containment system.
- 7.2.5. Lead-based paint shall not be applied to the interior or exterior surface of any dwelling or dwelling unit.

#### Stretch Provision:

• Lead present at or above the following limits is deemed hazardous: (1) lead-based paint on a friction, impact, or chewable surface, damaged or otherwise deteriorated, or non-intact—0.06 percent by weight; (2) dust on floors—10 micrograms of lead per square foot of settled dust (µg/ft²); (3) dust on interior window sills—100 µg/ft²; and (4) 40 µg/ft² on porches.

#### Rationale:

Lead is a heavy metal that accumulates in the body when ingested and has toxic effects on the nervous system, cognitive development, and blood-forming systems and numerous other systems production. Sources of lead include lead-based paint and the dust it generates, soil, drinking water, and consumer and other products. Lead-contaminated soil may be found particularly around older buildings contaminated by flaking external paintwork, adjacent to industrial premises using (or previously having used) lead, and near busy roads from the exhaust fumes from leaded gasoline. Lead is readily absorbed from the intestinal tract, especially in children, and its absorption is enhanced by dietary deficiency of iron and calcium.

Even with relatively low levels of lead in blood, studies show effects on a child's nervous and other systems. The highest risk group is young children aged 0-5 years, because of lead's potential effect on neurological development

and because physiologically they take up lead more readily. Pregnant women and their babies are at risk since lead can pass through the placental barrier.

#### References:

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#### 7.3. Asbestos.

#### Requirement:

Every owner shall maintain in good repair all asbestos-containing material on the premises. All asbestos-containing material shall be maintained non-friable and free from any defects such as holes, cracks, tears, and/or looseness that may allow the release of fibers into the environment.

- **7.3.1.** Friable asbestos-containing material shall be abated by licensed asbestos professionals in accordance with federal, state, or local requirements.
- **7.3.2.** Any renovation, demolition, or other activity that will disturb asbestos-containing materials shall be preceded by asbestos abatement performed by certified asbestos professionals in accordance with federal, state, or local requirements.
- **7.3.3.** Abatement, removal, and disposal of all asbestos-containing material shall comply with all appropriate federal, state, and local requirements.

#### Rationale:

Exposure to asbestos increases the risk of developing lung disease. Disease symptoms may take many years to develop following exposure. Asbestos products were historically used extensively in building materials. Vermiculite insulation in homes may be contaminated with asbestos. A mine near Libby, Montana was the source of over 70 percent of all vermiculite sold in the United States from 1919 to 1990. There was also a deposit of asbestos at that mine, so the vermiculite from Libby was contaminated with asbestos. Vermiculite from Libby was used in the majority of vermiculite insulation in the United States and was often sold under the brand name Zonolite. Vermiculite insulation should be assumed to be contaminated with asbestos and should not be disturbed. Trained professionals must be hired to remove vermiculite insulation. Many asbestos-containing materials continue to be legal to sell and to use. Intact asbestos is not a hazard; it becomes a hazard when it is damaged or deteriorated and releases friable asbestos. The EPA and most states certify or license asbestos inspectors.

#### References:

- Agency for Toxic Substances and Disease Registry. (2001). *Public health statement for asbestos*. Atlanta, GA: U.S. Department of Health and Human Services. Retrieved from: http://www.atsdr.cdc.gov/toxprofiles/phs61.html
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#### 7.4. Toxic Substances in Manufactured Building Materials

#### Requirement:

- **7.4.1.** Building materials consisting of hardwood plywood, medium-density fiberboard, and particleboard as defined by 15 U.S.C. 2697(b)(2) shall not be used in maintenance and renovations within dwellings, unless the materials have been certified to meet the formaldehyde emission standards of 15 U.S.C. 2697(b)(2):
- (1) Hardwood plywood with a veneer core, 0.05 parts per million (ppm);
- (2) Hardwood plywood with a composite core, 0.05 ppm;
- (3) Medium-density fiberboard, 0.11 ppm;
- (4) Thin medium-density fiberboard, 0.13 ppm; and
- (5) Particleboard, 0.09 ppm.

**7.4.2.** Building materials used in maintenance and renovations, including but not limited to paints, coatings, primers, glues, resins, adhesives, and floor coverings, shall be certified as having no volatile organic chemicals (VOCs) or low VOC emissions, and having no halogenated flame retardants (HFRs).

#### Rationale:

Formaldehyde is a prominent VOC found in household and construction products. It is a colorless, strong-smelling gas that can cause watery eyes; burning sensations in the eyes, nose, and throat; nausea; coughing; chest tightness; wheezing; skin rashes; and allergic reactions. Laboratory animal studies have revealed that formaldehyde can cause cancer in animals. Formaldehyde is classified by the World Health Organization as a known human carcinogen. The most significant source of formaldehyde in homes has been pressed wood products made using adhesives that contain urea formaldehyde (UF) resins. These products include particleboard (used as subflooring and shelving and in cabinetry and furniture), hardwood plywood paneling (used for decorative wall covering and used in cabinets and furniture), and medium-density fiberboard (used for drawer fronts, cabinets, and furniture tops). Medium-density fiberboard contains a higher resin-to-wood ratio than any other UF pressed wood product and is generally recognized as being the highest formaldehyde-emitting pressed wood product.

Pending EPA regulations will implement the Formaldehyde Standards for Composite Wood Products Act to limit formaldehyde emissions from composite wood products and finished goods that contain composite wood products in the U.S. The World Health Organizations has recommended a short-term (30-minute) indoor formaldehyde exposure guideline of 0.1 mg/m<sup>3</sup> to prevent sensory irritation in the general population.

Interior paints and primers, glues, and adhesives may release VOCs, particularly when drying. Exposure to individual VOCs and mixtures of VOCs can cause or aggravate health conditions, including allergies, asthma, and irritation of the eyes, nose, and airways; however, no health-based standards for indoor non-occupational exposure have been set.

Halogenated flame retardants (HFRs) used in fabrics, foams, and various plastics disrupt thyroid and estrogen hormones, which can cause developmental effects, such as permanent changes to the brain and to reproductive systems (including reduced sperm count in males and changes to ovarian cell structure in females).

#### References:

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#### 7.5. Radon.

#### Requirement:

Radon present at levels at or above the EPA action level of four picocuries radon per liter of air (pCi/L) in the lowest habitable level of the dwelling shall be deemed hazardous. Radon levels shall be determined by an approved testing method in accordance with state and local requirements. Radon levels exceeding four pCi/L shall be mitigated by a qualified radon mitigation professional who meets state and local requirements. If there are no state or local requirements qualifying radon testing and mitigation professionals, radon testing and mitigation shall be performed by a professional certified by a national private-sector radon proficiency program.

#### Stretch Provision:

• Radon present at levels at or above two pCi/L in the lowest habitable level of the dwelling shall be deemed hazardous. Radon determined by an approved testing method to exceed two pCi/L shall be mitigated by qualified radon mitigation professionals in accordance with state and local requirements. If there are no state or local requirements qualifying radon testing and mitigation professionals, radon testing and mitigation shall be performed by a professional certified by a national private-sector radon proficiency program.

#### Rationale:

The U.S. Environmental Protection Agency (EPA) estimates that about 21,000 lung cancer deaths each year in the U.S. are radon-related. Exposure to radon is the second-leading cause of lung cancer after smoking. Radon is an odorless, tasteless, and invisible gas produced by the decay of naturally occurring uranium in soil and water. Radon decays rapidly and the resulting products quickly attach themselves to particles in the air. If these particles are inhaled, they can be deposited in the lungs, where the process of radioactive decay continues. The particles emitted can cause cells lining the lungs to mutate genetically and initiate cancer or facilitate a process already initiated by other carcinogens. The risk related to radon increases with dose and duration of exposure. The highest risk is for smokers. As radon is soluble in water, it can be ingested, resulting in the organs of the gastrointestinal

tract receiving the largest dose. EPA has established a recommended maximum exposure level of four pCi/L in occupied areas. Approximately one in 15 homes nationwide has radon above this level.

#### References:

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#### 7.6. Pesticides.

#### Requirement:

Pesticides shall only be used in accordance with IPM methods discussed in Section 6.3, using the least toxic pesticide with demonstrated efficacy for the identified pest.

**7.6.1.** Pesticides shall be applied only in areas and at concentrations which comply with manufacturer specifications. When it is determined by an approved method that a hazardous amount of a pesticide has been applied in a location or at a concentration contrary to manufacturer specifications, the hazard shall be immediately mitigated.

**7.6.2.** Pesticides shall be stored and disposed in accordance with manufacturer specifications.

#### Rationale

The health effects of pesticides vary with the product, but most products affect the eyes, noses, and throats. More severe consequences, such as central nervous system and kidney damage and increased cancer risk, are possible. An EPA survey revealed that bathrooms and kitchens are areas in the home most likely to have improperly stored pesticides. In the United States, EPA regulates pesticides under the pesticide law known as the Federal Insecticide, Fungicide, and Rodenticide Act. Since 1981, this law has required most residential-use pesticides to bear a signal word, such as "danger" or "warning," and to be contained in child-resistant packaging. This type of packaging is designed to prevent or delay access by most children under the age of five years.

#### References:

- National Pesticide Information Center. (n.d.). <u>www.npic.orst.edu.</u>
- U.S. Environmental Protection Agency. (n.d.). An introduction to indoor air quality (IAQ): Pesticides. Retrieved from http://www.epa.gov/iaq/pesticid.html

#### 7.7. Methamphetamine.

#### Requirement:

A dwelling that has been used for methamphetamine manufacture shall be vacated until certified by an approved testing method as safe from hazardous materials related to the methamphetamine manufacturing process.

#### Rationale:

Homes formerly used as methamphetamine labs put residents, especially children, at serious health risk. Methamphetamine can be inhaled or absorbed through the skin. Effects resulting from acute exposures include cough; headache; chest pain; burns to skin, eyes, nose, and mouth; shortness of breath; dizziness; pulmonary edema; coma; and death. Exposure over a longer period can lead to liver and kidney damage, neurological problems, and an increased risk of cancer.

#### References:

- American Academy of Pediatrics Council on Environmental Health. (2012). Drug (methamphetamine) laboratories. In R. A. Etzel (Ed.), *Pediatric Environmental Health, 3rd edition*. (pp. 737–748). Elk Grove Village, IL: American Academy of Pediatrics.
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#### 7.8. Smoke in Multifamily Housing.

#### Requirements:

- **7.8.1.** Smoking shall be prohibited in all indoor common areas of multifamily buildings.
- **7.8.2.** Smoking shall be prohibited in exterior areas less than 25 feet (762 cm) from building entrances, outdoor air intakes, and operable windows.
- **7.8.3.** Tenants and prospective tenants shall be informed in writing of any applicable smoke-free policy and the location of designated smoke-free and smoking areas. Signs shall be posted in all designated areas.
- **7.8.4.** Tenants who terminate a lease early due to incursion of tobacco smoke or the inception of a smoke-free policy shall be exempt from early termination penalties or security deposit forfeiture.

#### Stretch Provisions:

- A property-wide policy shall be established in consultation with current tenants to designate exterior common areas where smoking shall be prohibited and areas where smoking shall be permitted.
- A property-wide policy shall be established in consultation with current tenants to designate dwelling units where tobacco smoking shall be prohibited.

#### Rationale:

Tobacco smoke contains more than 7,000 chemicals, including hundreds that are toxic and approximately 70 carcinogens, such as arsenic, formaldehyde, benzene, and vinyl chloride. After smoking and radon, secondhand smoke exposure is the third-leading cause of lung cancer death. Secondhand smoke (SHS) also causes numerous health problems in infants and children, including asthma attacks, respiratory infections, ear infections, and sudden infant death syndrome (SIDS). In addition, tobacco smoking is the leading cause of fatal residential fires in the U.S. Surgeon General has concluded that there is no safe level of exposure to SHS. Also, experts have concluded that the only way to effectively prevent the migration of SHS from the units of smokers to common areas and the units of nonsmokers is to prohibit all smoking within the building. A study in the United Arab Emirates found that incense smoke emits carbon monoxide, oxides of nitrogen, formaldehyde and carbonyls, and that incense smoke exposure causes significant lung cell inflammation. Studies show that thirdhand smoke clings to hair, skin, clothes, furniture, drapes, walls, bedding, carpets, dust, vehicles, and other surfaces, even long after smoking has stopped. Infants, children, and nonsmoking adults may be at risk of tobacco-related health problems when they inhale, ingest, or touch substances containing thirdhand smoke. Thirdhand smoke is a relatively new concept, and researchers are still studying its possible dangers.

#### References:

- American Cancer Society. (n.d.). Secondhand smoke. Retrieved from <a href="http://www.cancer.org/cancer/cancercauses/tobaccocancer/secondhand-smoke">http://www.cancer.org/cancer/cancercauses/tobaccocancer/secondhand-smoke</a>
- American Society of Heating, Refrigerating, and Air-Conditioning Engineers. (2013). ASHRAE position document on environmental tobacco smoke. Retrieved from <a href="https://www.ashrae.org/File%20Library/docLib/About%20Us/PositionDocuments/ASHRAE\_PD\_Environmental\_Tobacco\_Smoke\_2013.pdf">https://www.ashrae.org/File%20Library/docLib/About%20Us/PositionDocuments/ASHRAE\_PD\_Environmental\_Tobacco\_Smoke\_2013.pdf</a>
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#### **Definitions**

**Accessory structure** shall mean a detached structure, such as garage or shed, that is subordinate to the principal building(s) on the same premises.

**Adequate** shall mean sufficient to accomplish the purpose intended without unreasonable risk to human health or safety.

**Approved** shall mean established by the local or state authority having such administrative authority or determined by the designated official.

**Asbestos** shall mean chrysotile, amosite, crocidolite; or, in fibrous form, tremolite asbestos, anthophyllite asbestos, or actinolite asbestos.

**Asbestos-containing material** shall mean any material or product containing more than one percent asbestos.

**Backdrafting** shall mean improper venting of combustion appliances that causes combustion by-products or other gases to enter the indoor environment rather than to exhaust outdoors.

**Balusters** shall mean pillars or columns in a series supporting a rail or guard.

**Basement** shall mean a portion of a building located partly or entirely below grade.

**Biological agent** shall mean but not be limited to mold, infestation, human and animal waste, wastewater, sewage, rotting material, and accumulation of trash that may harbor viruses, parasites, fungi, and/or bacteria.

**Bulk storage container** shall mean a metal trash container that is more than 40 inches (102 cm) in height, has a capacity of more than two cubic yards (1.5 m³), and is equipped with fittings for hydraulic and/or mechanical emptying, unloading, and/or removal.

**Carbon monoxide alarm** shall mean an electronic device that measures the level of carbon monoxide gas in the air and is equipped with a sensor that activates an audible alarm when an amount of carbon monoxide above the device's threshold level accumulates in the area in which the alarm is located.

**Chemical agent** shall mean chemicals that have the potential to cause adverse health effects.

**Chimney** shall mean a vertical masonry shaft of reinforced concrete or other approved noncombustible, heat-resisting material enclosing one or more flues, to remove products of combustion from solid, liquid, or gaseous fuel.

Class ABC fire extinguisher shall mean a fire extinguisher capable of putting out (1) fires in ordinary combustible materials, such as wood, cloth, paper, rubber, and many plastics (Class A); (2) fires in flammable liquids, combustible liquids, petroleum greases, tars, oils, oil-based paints, solvents, lacquers, alcohols, and flammable gases (Class B); and (3) fires that involve energized electrical equipment (Class C).

**Cleanable** shall mean moisture-resistant, free from cracks, pitting, chips, or tears, and designed to be cleaned frequently.

**Climate Zone 1** shall mean the geographic region designated by the International Energy Conservation Code that receives each year at least 5,000 cooling degree days, which are calculated by multiplying temperature differences above 50 degrees Fahrenheit by the amount of time such higher temperatures are reached

**Common areas** shall mean areas within multifamily housing that are designated for use by all occupants, owners, tenants, or users of a building or building complex, including but not limited to corridors, hallways, lobbies, parking areas, laundry rooms, recreational spaces, pools, and exterior property.

**Dwelling** shall mean any building wholly or partly used or intended to be used for living, sleeping, cooking, and eating.

**Dwelling unit** shall mean a room or group of rooms used or intended to be used for living, sleeping, cooking, and eating by one or more individuals living together as a single household.

**Egress** shall mean the path available for a person to leave a building. This route shall be unobstructed, and doors along this route cannot be subject to locking from the side to which people will be leaving.

**Electrical system** shall mean a system that makes electricity available in a building and distributes it through outlets and lighting fixtures for occupant use.

**Emergency escape and rescue opening** shall mean an operable window, door, or other similar device that provides for a means of escape and access for rescue in the event of an emergency.

**Flue** shall mean a conduit made of non-combustible heat-resisting material that is used to remove the products of combustion from solid, liquid, or gaseous fuel.

**Formaldehyde** shall mean the colorless, flammable carcinogenic chemical, an organic compound with the formula HCHO, which is used in the manufacture of building materials (e.g., pressed wood products) and household products. Federal limits for formaldehyde emissions from building materials (hardwood plywood, medium-density fiberboard, and particleboard) were established in 15 U.S.C. 2697(b) (2).

**Friable** shall mean asbestos-containing material that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

**Grade** shall mean the finished ground level adjoining building at all exterior walls.

**Graywater system** shall mean a system for collecting household waste water from plumbing fixtures other than toilets and treating it for non-potable reuse.

**Guard** shall mean a building component or a system of building components located near the open sides of elevated walking surfaces or adjacent to a window that minimizes the possibility of a fall from the walking surface or window to the lower level.

**Habitable room** shall mean an enclosed floor space used or intended to be used for living, sleeping, cooking, or eating, and excluding bathrooms, toilet rooms, laundries, furnace rooms, pantries, kitchenettes, utility rooms, foyers, communicating corridors, stairways, closets, storage spaces, workshops, or rooms with less than 70 ft<sup>2</sup> (6.5 m<sup>2</sup>) of floor space.

**Handrail** shall mean a horizontal or sloping rail intended for grasping by the hand for guidance or support.

**Harborage** shall mean any conditions or place where pests can obtain water or food, nest, or obtain shelter.

**Healthy**: See "safe and healthy."

**Heating system** shall mean facilities that, for the purpose of maintaining thermal comfort during cold weather, heat air or water through a furnace or heat pump and distribute such heat through vents, ducts, pipes, or radiators, or hardwired electrical heaters. Neither a cooking appliance nor a portable, unvented fuel-burning space heater is a heating system.

**Infestation** shall mean the recurrent presence of any life stages of a pest that presents a hazard to humans, property, or the environment.

**Insects** shall mean all species of classes of Arachnida and Insecta (Hexapoda) of the phylum Arthropoda and includes but is not limited to flies, mosquitoes, bed bugs, crickets, cockroaches, moths, bees, wasps, hornets, fleas, lice, beetles, weevils, gnats, ants, termites, mites, ticks, spiders, and scorpions.

**Integrated pest management** shall mean a systematic strategy for managing pests that consists of prevention, exclusion, monitoring, and suppression of pests. Where chemical pesticides are necessary, a preference is given to materials and methods that maximize safety and reduce environmental health risk. Methods to manage pests include eliminating their harborage places; removing or making inaccessible their food and water sources: routine inspection and monitoring; identification of evidence found; treatment that is scaled to and designed for the infestation; using the least-toxic pesticide for the identified pest; and follow-up inspection until the infestation is gone. Low-toxicity pesticide products are labeled with the signal word of CAUTION while WARNING, DANGER, and POISON indicate higher levels of toxins.

**L**<sub>dn</sub> (day-night equivalent sound level) shall mean a weighted average sound level measured over a 24-hour period with adjustments anticipating reduced levels during evening and night hours to factor occupants' extra sensitivity to noise during those time periods.

**LA**<sub>eq</sub> shall mean an average sound level measured over a specified period.

**Lead-based paint** shall mean equal to or greater than 1.0 milligram lead per square centimeter or 0.5 percent lead by weight for existing surfaces, paint, or other surface coatings, and equal to or greater than 90 parts per million (ppm) or .009 percent lead for paint and other surface coatings at the point of purchase.

**Lead-based paint hazard** shall mean any deteriorated lead-based paint, dust-lead hazard, soil-lead hazard, lead-based paint present on chewable surfaces with teeth marks, or lead-based paint present on friction surfaces, in accordance with 40 C.F.R.§ 745.65.

**Let** shall mean to lease or grant the use and possession of real property whether or not for compensation.

**Long-lasting** battery shall mean a battery having a life of ten or more years.

**Methamphetamine** shall mean the synthetic drug with more rapid and lasting effects than amphetamine, sometimes used or manufactured illegally as a stimulant.

**Mixed-humid climate** shall mean a region that receives more than 20 inches (50 cm) of annual precipitation, has approximately 5,400 heating degree days (65° F or 18° C basis) or fewer, and where the average monthly outdoor temperature drops below 45° F (7° C) during the winter months. The U.S. counties located in a warm-humid climate are identified by Building America.

**Mold** shall mean a growth that a fungus produces on damp or decaying organic matter or on living organisms.

**Multifamily housing** shall mean any dwelling containing more than two dwelling units.

**Occupant** shall mean any individual living, sleeping, cooking, or eating in and having possession of a dwelling or dwelling unit.

**Owner** shall mean any person who alone, jointly, or severally with others, has legal title to the premises, dwelling, or dwelling unit, with or without accompanying actual possession thereof; has charge, care, or control of any premises, dwelling, or dwelling unit, as owner, agent of the owner, or other person; is executor, administrator, trustee, or guardian of the estate of the owner; is a mortgagee in possession; or is the senior officer or trustee of the association of unit owners of a condominium.

**Person** shall mean any individual, firm, corporation and its officers, association, partnership, cooperative, trustee, executor of an estate, governmental agency, or any other legal entity recognized by law.

**Pesticide** shall mean any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant.

**Pests** shall mean insects, rodents, or other vermin.

**Plumbing** shall mean and include any and all of the following facilities and equipment: water pipes, garbage disposal units, waste pipes, toilets, sinks, bathtubs, shower baths, catch basins, drains, vents, installed clothes washing machines and dishwashers, and any other supplied plumbing fixtures, together with all connections to water, sewer, or gas lines.

**Potable water** shall mean water that complies with the maximum contaminant limits of the United States Environmental Protection Agency (EPA) or a regulatory limit that is more protective than EPA's.

**Premises** shall mean a lot or parcel of land or plot of land, either occupied or unoccupied by any dwelling, and includes any such building, accessory structure, or other structure thereon

**Privacy** shall mean the existence of conditions that permit an individual or individuals to be without observation, interruption, or interference by unwanted individuals.

**Properly connected** shall mean installed in accordance with all applicable codes and ordinances, and in good working order and not constituting a hazard to life or health.

**Radon** shall mean the odorless, tasteless, and invisible gas found in both outdoor air and indoor air that is a form of ionizing radiation produced by the decay of uranium in soil and water.

**Recyclable materials** shall mean disposable products composed of glass, metal, paper, plastic, and similar content that can be processed to produce a new supply of the same material or be reused in the production of other materials.

**Riser** shall mean the vertical surface that connects one tread of a step or stair to the next.

**Rodent** shall mean any member of the order Rodentia, including but not limited to field and wood mice, wood rats, squirrels, woodchucks, gophers, Norway rats (*Rattus norvegicus*), roof rats (*Rattus rattus*), and house mice (*Mus musculus*).

**Safe and healthy** shall mean the condition of being free from danger and chemical, biological, and physical agents that may cause injury, disease, or death; and fit for human occupancy.

**Smoke** shall mean emissions from a lighted pipe, cigar, cigarette, hookah, weed, herbs, or any other lighted biomass-burning substances such as but not limited to tobacco, marijuana, and incense.

**Smoke detector** shall mean a device that is equipped to activate an audible alarm when it detects the presence of combustion products in air.

**Space heater** shall mean a self-contained convection or radiant heater designed to heat a room, two adjoining rooms, or some other limited space or area.

**Supplied** shall mean paid for, furnished by, provided by, or under the control of the owner or operator.

**Toilet room** shall mean a room containing a water closet or urinal but not necessarily a bathtub or shower.

**Trash** shall mean garbage, refuse, or ashes.

**Trash container** shall mean a container with a tight-fitting lid that is constructed of metal or other durable material that is impervious to rodents, insects, and handling stress; and is capable of being filled, emptied, and cleaned without creating unsanitary conditions.

**Tread** shall mean the horizontal surface of a step or stair.

**Unblockable drain** shall mean a pool, spa, or whirlpool drain of any size and shape that a human body cannot sufficiently block to create a suction entrapment hazard.

**Ventilation system** shall mean the natural or mechanical process of supplying or removing conditioned or unconditioned air to or from a space.

**Volatile organic compounds**, or VOCs, shall mean organic chemical compounds whose composition makes it possible for them to evaporate under normal indoor atmospheric conditions of temperature and pressure.

**Walk-off mat** shall mean a coarse-ribbed or plushsurfaced mat with nonslip backing placed inside or just outside building entrances designed to capture dirt, water, and other materials tracked inside by people and equipment.

**Warm-humid climate** shall mean the region where either of the following conditions occurs: (1) 67° F (19.4° C) or higher wet bulb temperature for 3,000 or more hours during the warmest six consecutive months of the year; or (2) 73° F (22.8° C) or higher wet bulb temperature for 1,500 or more hours during the warmest six consecutive months of the year. The

U.S. counties located in a warm-humid climate are identified in Figure 301.1 and Table 301.1 of the 2012 International Energy Conservation Code.

**Waterproof** shall mean impervious to water.

**Watertight** shall mean closely sealed, fastened, or fitted so that no water enters or passes through the surface.

**Weathertight** shall mean secure against penetration by air, wind, rain, snow, and other weather conditions.

#### **Interpretation of Terms:**

Where the words "dwelling," "dwelling unit," "premises," and "structure," or a particular building component are used in this Standard, they shall be construed as if they were followed by the words "or any part thereof." Words used in the singular include the plural, and the plural the singular.

#### U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

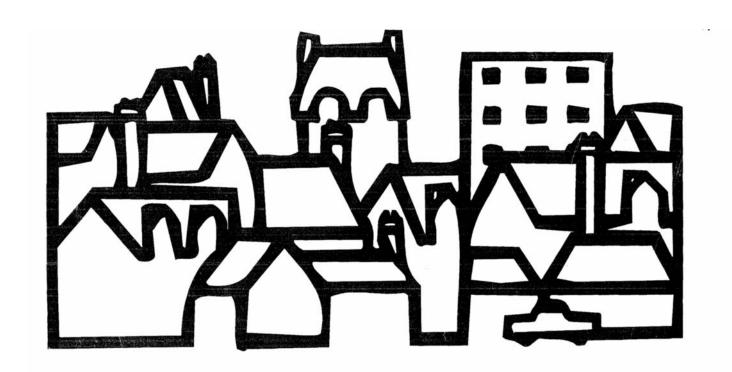
Office of Community Planning and Development Community Development Block Grant Program



## Playing by the Rules

A Handbook for CDBG Subrecipients on Administrative Systems

March 2005



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## Playing by the Rules

# A Handbook for CDBG Subrecipients on Administrative Systems

U.S. Department of Housing and Urban Development Office of Community Planning and Development Community Development Block Grant Program

> Updated Reprint March 2005

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## Playing by the Rules A Handbook for CDBG Subrecipients on Administrative Systems

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#### PROLOGUE: A MESSAGE TO CDBG SUBRECIPIENTS

As Community Development Block Grant (CDBG) subrecipients, you are an indispensable part of the CDBG Entitlement program. You provide grantees and the U.S. Department of Housing and Urban Development (HUD) with assurance that the diverse communities, groups, and individuals whom the CDBG program is intended to serve are in fact reached by the program. Your participation provides:

- Access to, and knowledge of, the specific neighborhoods and beneficiaries served by the program.
- Technical and managerial capabilities that might not otherwise be available to grantees.
- A mechanism for assuring citizen participation by involving the intended beneficiaries in the design and delivery of those services.

Without your continued involvement and support, the CDBG program could not address the broad range of needs in our communities. Whether you are a governmental agency, a non-profit organization, or a for-profit entity, HUD and the more than 1,000 CDBG Entitlement grantees count on you to make sure that needed services are delivered in a cost-effective way. This is not an easy task. Despite numerous accomplishments in program delivery, many of you have encountered administrative problems in achieving your mission; hence, the motive for this handbook.

#### **Common Subrecipient Problems**

The majority of difficulties experienced by subrecipients lay in the area of financial management, administrative systems, documentation, and record keeping. Many of these problems are attributed to:

- Limited experience in dealing with Federally-funded programs.
- Lack of adequate staffing or financial resources available on a consistent basis.
- Limited understanding about how to meet the complex administrative requirements that must be satisfied in using Federal funds for CDBG activities.
- Limited oversight, communication, or management support from grantees.

#### **Subrecipient Responsibilities**

You and your grantees share joint responsibility for carrying out permitted activities in conformance with applicable Federal requirements. Grantees and subrecipients are partners. Both partners must accept the fact that there is no such thing as a "free lunch." In return for Federal funding, grantees and subrecipients agree to comply with the laws and regulations governing the use of those funds. A central principle is that most of the Federal requirements imposed on the grantee are passed along to you, the subrecipient. As more experienced subrecipients can attest, the more you know about the rules, the more efficient you can be in designing and conducting your activities. Playing by the rules does not detract from your performance; it enhances it (and enables you to continue receiving funds).

Regulatory compliance and performance go hand-in-hand. Performance measurement is an effective management technique that enables grantees to analyze the benefits of their investments. It is a mechanism that tracks the progression of projects and evaluates their overall program effectiveness. The CDBG program requires that each grantee submit a performance and evaluation report concerning the use of CDBG funds, together with an assessment of the relationship of the use of funds to the objectives identified in the grantee's Consolidated Plan. Subrecipients should also establish goals and measure their performance in a manner consistent with the grantee's performance measurement system.

In using Federal funds the cardinal rule is: **documentation.** The achievement of program goals and the completion of activities must be supported by adequate documentation of the facts. If your activities, personnel, procedures, expenditures, and results are not documented properly, from the Federal Government's perspective, you have not done your job, *regardless of your accomplishments*. Appropriate records are the lifeblood of all successful CDBG agencies.

Finally, successful CDBG programs depend upon the commitment of grantees and subrecipients to **effective management practices**. These include: (1) supporting cooperative, problem-solving relationships among HUD, grantees, and subrecipients; (2) working toward continuous improvement in regulatory compliance and <u>timely</u> program performance; (3) maintaining open and frequent communications among all participants; and (4) focusing on preventing problems first, rather than curing them later. Such a commitment to effective management will assure that the "minimum requirements" specified in the handbook and the training do not become "maximums" for either grantees or subrecipients.

This handbook is designed to help you understand the administrative requirements that apply to the use of Federal funds for the delivery of CDBG programs and activities. Not surprisingly, you will find the bulk of these requirements reflect common sense and good business practices, like balancing your checkbook or shopping for the lowest price. We hope that what you learn from this handbook about meeting CDBG administrative requirements will save you from major headaches later on.

You will also recognize that most of the standards presented in this handbook represent the *minimum requirements* prescribed by Federal regulations, not *optimum* or *maximum*. Therefore, we hope your agency will resist the temptation to allow these standards to become "maximums" for its activities, but rather, will seek to use these regulations as a path to optimum performance and full achievement of all your goals.

This handbook had not been updated since its first printing in 1993. The changes currently being made reflect the incorporation of OMB Circulars A-102 and A-110 into the HUD Common Rule at 24 Code of Federal Regulations (CFR) Parts 84 and 85, as well as changes to the CDBG regulations that were made between 1993 and 2003.

Experience has shown that activities undertaken by subrecipients are potentially high risk. Many subrecipients have excellent intentions but use volunteers or inexperienced staff who don't know Federal requirements. In our efforts to promote timely expenditure of CDBG funds, we also found that delays in subrecipient activities were a cause for grantee failure to comply with the timeliness requirements at 24 CFR 570.902.

Over 10 years have passed since CPD first issued the three related publications dealing with subrecipients. This material is now being updated because in the intervening years, some administrative requirements have changed, grantees and subrecipients have experienced staff turnover, and new subrecipients are participating in the program. It is again time to focus grantees' attention on their responsibilities for subrecipient oversight and to encourage entitlement communities to take a fresh look at their internal processes for subrecipient selection, training, management, and monitoring.

This is an opportunity for grantees to distribute copies of <u>Playing by the Rules</u> to all their subrecipient organizations and to conduct training for both grantee and subrecipient staff, using the newly issued <u>Training CDBG Subrecipients in Administrative Systems</u> as a guide. Because both these publications are available from the HUD Web site\*, it has been made easier for grantees to distribute materials and to conduct this training. In addition to promoting program compliance, the sound management practices advocated in these publications can also serve to facilitate the development of performance measures for project implementation. Such actions will result in improved delivery of CDBG programs to the intended program beneficiaries, the low- and moderate-income residents of the community.

<sup>\*</sup>http://www.hud.gov/offices/cpd/communitydevelopment/library/index.cfm

#### **CHAPTER 1.0: INTRODUCTION**

The purpose of this handbook is to provide subrecipients of CDBG Entitlement funds with an explanation of the basic administrative requirements of the CDBG program. A "subrecipient" is a public agency, a private non-profit organization, in some circumstances a Community-Based Development Organization (CBDO), or perhaps even a for-profit entity that has been provided CDBG funds by the local "grantee" (the city or county) to carry out agreed upon activities that are eligible under the Federal regulations. While you may not technically meet the CDBG definition of a "subrecipient," your grantee may want to treat you like one to achieve its own objectives. In the administration of its CDBG funds, each subrecipient must meet the administrative requirements covered in this handbook.

The CDBG Entitlement program for metropolitan cities and urban counties is a "block grant" program. Through the block grant approach, the Federal Government offers localities a great deal of flexibility in the way they may use their funds, and in the activities they support, either directly or through subrecipients.

Since the start of the CDBG program over 30 years ago, HUD has issued numerous rules and regulations governing the program to ensure that the intent and requirements of the law are fulfilled, and that the opportunities for fraud, waste, mismanagement, and abuse of program resources are minimized. Although the regulations cover administrative and program requirements for both grantees and subrecipients, **this handbook is primarily concerned with:** 

- The regulations that apply to internal management and financial systems of subrecipients; and
- Subrecipients' responsibilities to document and report their CDBG-funded activities.

The administrative systems that are the subject of this handbook are *critical* to a subrecipient's ability to comply with CDBG program requirements. For example, a non-profit organization may indeed be providing highly effective public services to its low-income clientele; but it is only through its record-keeping and financial systems that the subrecipient will be able to justify its use of CDBG funds by showing that the activities were both eligible and consistent with its Subrecipient Agreement with the grantee, and that its expenses were appropriate and allowable under the program guidelines.

For those subrecipient organizations having little prior experience with Federal grant programs, the complexity of regulations that mandate specific procedures ("means") for achieving program objectives ("ends") can be daunting. The emphasis on specific procedures and extensive record keeping may appear on the surface to be bureaucratic red tape. However, many of the required systems and procedures are based on widely-accepted standards for good business practices that

are extensively observed in the private sector. They are also designed to help ensure that every entity administering CDBG funds has basic management controls and financial safeguards in place to reduce the likelihood of mismanagement in the use of public funds. With the oversight and analytic capacity that these systems provide, many program managers find they are able to adjust their operations continuously and improve their performance on a regular basis.

#### 1.1 How to Use This Handbook

This Handbook is organized into chapters corresponding to particular components of a subrecipient's administrative operations:

- Financial Management (Chapter 2.0).
- Procurement and Contracting (Chapter 3.0).
- Property Management and Disposition (Chapter 4.0).
- Record-Keeping and Reporting Requirements (Chapter 5.0).
- Other Administrative and Program Requirements (Chapter 6.0).
- Audits (Chapter 7.0).
- Closeout (Chapter 8.0).

Each chapter begins with a brief explanation of the underlying management principles that apply to that facet of program administration, followed by the basic standards that must be met as specified in the applicable regulations or circulars.

It is important to note that sometimes differences exist in the specific requirements for governmental versus nongovernmental subrecipients. In such cases, the set of requirements that is generally more stringent or detailed is described first and then any exceptions to such rules are discussed. For example, the rules for procurement spelled out in Parts 84 and 85 of Title 24 of the Code of Federal Regulations (CFR) for nongovernmental and governmental subrecipients, respectively, distinguish how the rules differ depending on the type of subrecipient. Therefore, the chapter on procurement first outlines the requirements of 24 CFR Part 85 for governmental subrecipients and then discusses how those in Part 84 for nongovernmental subrecipients differ.

To the extent feasible, performance standards have been listed in order from the most basic requirements to the most specialized. This has been done to facilitate use of the handbook as a

checklist for building administrative systems "from the ground up," and/or for reviewing existing systems for their adequacy in meeting the standards.

Subrecipients (and grantees) are cautioned to use this handbook as a <u>supplement</u> to, <u>not a replacement</u> for, the applicable regulations. It is assumed that the reader has access to, or copies of, the basic regulations identified in Section 1.2, which follows. Over time, use of the handbook as a reference tool should help the recipient de-mystify the regulations and become more familiar with the requirements of the CDBG program. This knowledge, in turn, should assist the subrecipient avoid the pitfalls (and penalties) of noncompliance.

Readers of this handbook may notice some duplication from chapter to chapter. This reflects the overlap that occasionally occurs in the regulations themselves and was retained in the text to minimize the amount of cross-referencing.

#### 1.2 Summary of Principal Regulations Governing CDBG Administrative Systems

The key regulations that form the basic administrative requirements of the CDBG Entitlement program are summarized here to acquaint the reader with the various sources for the following standards described throughout the remainder of this handbook. At the end of this chapter, Exhibit 1–1 describes the regulatory framework for the CDBG program. Regulations are developed in response to, or in fulfillment of, Federal statutes that govern the CDBG Entitlement program, both those specific to the CDBG program and those addressing other Federal laws or policies that apply to the CDBG program (e.g., National Environmental Policy Act, Americans with Disabilities Act, Davis-Bacon Act).

The basic program regulations governing management and financial systems for the CDBG program are contained in *24 CFR Part 570*, *Subparts J and K*. They are applicable both to grantees and subrecipients in the public and private sectors:

a) Subpart J (24 CFR 570.500–570.513) addresses general responsibilities for grant administration, including the applicability of uniform administrative requirements, provisions of Subrecipient Agreements, program income, use of real property, record keeping and reporting, and closeout procedures.

b) Subpart K (24 CFR 570.600–570.613) deals with other program requirements of the CDBG program, including civil rights; labor standards; environmental standards; flood insurance; relocation; displacement; acquisition; employment and contracting opportunities; lead-based paint; use of debarred, suspended, or ineligible contractors; uniform administrative requirements and cost principles; and conflicts of interest.

In addition to the basic regulations of the CDBG program contained in 24 CFR Part 570, there are three other categories of requirements that affect the administrative systems and procedures subrecipients must have in place to receive support:

- Federal regulations governing administrative and audit requirements for grants and cooperative agreements (governmental subrecipients) for which HUD has oversight responsibilities.
- Administrative circulars from the Office of Management and Budget (OMB) and Department of the Treasury governing cost principles, administrative systems, fiscal procedures, and audit requirements for grantees and subrecipients.
- Executive Orders from the Office of the President implementing various equal employment opportunity and environmental policies.

The applicability of these administrative requirements depends upon the public or private status of the organization receiving funds. For subrecipients that are private, non-profit organizations, the key regulations defining administrative requirements are:

## <u>24 CFR Part 84 "Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-profit</u>

Organizations<sup>2</sup>: These regulations implement OMB Circular A-110 and specify standards relative to cash depositories, bonding and insurance, retention and custodial requirements for records, financial management systems, monitoring and reporting on performance, property management, and procurement.

For-profit entities organized pursuant to Section 301(d) of the Small Business Investment Act of 1958 (15 U.S.C. 681(d)) and for-profit local development corporations (LDCs) may also qualify as CBDOs under the requirements of 24 CFR 570.204 and thus serve in the role of a subrecipient under the CDBG program if so designated by the grantee. The CDBG regulations pertaining to non-profit organizations apply to such for-profit entities.

<sup>2 . .</sup> 

<sup>&</sup>lt;sup>2</sup> Not all the requirements of 24 CFR Parts 84 and 85 are applicable to CDBG subrecipients; 24 CFR 570.502(a) and (b) specify the sections and paragraphs of the Common Rule that apply to CDBG recipients and subrecipients.

OMB Circular A-122 "Cost Principles for Non-profit Organizations": A publication of OMB, this document establishes principles for determining costs that are allowed to be charged to Federal grants, contracts, and other agreements with non-profit organizations (except educational institutions). The principles are designed to ensure that the Federal Government will bear its fair share of costs except where restricted or prohibited by law.

OR,

<u>OMB Circular A-21 "Cost Principles for Educational Institutions"</u>: This document covers much of the same subject matter as OMB Circular A-122, only it is aimed at educational institutions (public <u>and private</u>).

AND,

OMB Circular A-133 "Audits of States, Local Governments and Non-profit Organizations": This circular defines audit requirements for both governments and non-profits receiving Federal funds. The document addresses mandated frequency and scope of audits, allowability of audit costs, and the process of auditor selection.

For "governmental subrecipients" (a public agency that is independent of the grantee government, such as a public housing authority, parks commission, or a jurisdiction cooperating with an urban county CDBG grantee<sup>3</sup>), the key administrative requirements are:

24 CFR Part 85 "Uniform Administrative Requirements for Grants and Cooperative Agreements to State, Local, and Federally-recognized Indian Tribal Governments" (also known as "the Common Rule")<sup>2</sup>: For governmental entities and public agencies, Part 85 of Title 24 of the CFR details standards for financial management systems, payment, allowable costs, property management, procurement, monitoring and reporting program performance, financial reporting, record retention, and termination.<sup>3</sup>

OMB CircularA-87 "Cost Principles for State and Local Governments": For governmental entities receiving CDBG or other Federal funds, this document is the equivalent of OMB Circular A-122. The circular establishes the principles for determining the allowable costs of programs administered by public entities under grants or contracts from the Federal Government. The principles are designed to provide the basis for a uniform approach to determining costs and to promote efficiency.

Under the CDBG program, participating units under an urban county are considered to be part of the grantee; however, the grantee is responsible for applying the same requirements to these participating jurisdictions as are applicable to subrecipients.

#### OMB-133 "Audits of State, Local Governments and Non-profit Organizations":

For state and local governments which receive Federal aid, this document describes audit requirements, including frequency and scope of audit, audit standards, and auditor selection procedures.

The above referenced sections of Title 24 regulations and OMB circulars may be accessed at the HUD Web site at http://www.hudclips.org/cgi/index.cgi.

**Federal Statutes CDBG** Other Program **Federal Laws** Legislative **Executive** Federal (HUD) Regulations OMB & Executive **Treasury** Other Federal **CDBG Program Orders** Circulars Policies and 24 CFR 570 Regulations **Federal** HUDPolicy Regu-Hand-\$/M lations books Notices Memos Local **Entitlement Grantees** (Metropolitan Cities/ **Urban Counties**) Private, Governmental Non-profit **Subrecipients** M Subrecipients\* \$  $\mathbf{M}$ M M **Contractors Contractors Contractors Beneficiaries** 

Exhibit 1-1: Regulatory Framework for CDBG Entitlement Program

\$=Funds provided. M=Monitoring required. \*Includes §204(c)(2) for-profit CBDOs.

# Community Action for Healthy Housing

There are a lot of things that a resident can do to make their home healthy. They can wipe down shower stalls, get rid of clutter, keep food in sealed containers, use exhaust fans, make sure that smoke alarms work, and have their children tested for lead poisoning.

But what if a landlord refuses to fix a leak or clean up mold? What if a homeowner can't afford to seal up a crack or repair a window themselves? Here are some tools for action that may help with these problems.

If the resident is a renter, the first thing they should do is **check their lease!**Usually, their lease will say that the landlord has to keep the property in good condition.



Not sure what good condition means? **Contact** your local department of housing, a building code official, or your local health department to **find out how a** landlord in your community is required to maintain their property.



If the resident lives in Section 8 or other public housing, HUD requires that the property meet certain standards called the Housing Quality Standards.



Contact your landlord and/or local public housing authority to find out the requirements the landlord must follow to maintain a property for Section 8 or other public housing residents.



If you are working with a homeowner who needs money for repairs, you may be able to get the money (as a grant or loan) from a weatherization or minor repair program.



Many weatherization or minor repair programs are run by a local **Community Action Agency**. Look in the phone book for one in your community. If you can't find one, **contact** your local Department of Housing. If you community has a local **healthy homes program** or **lead hazard control program**, they might be able to help also.

[ADD ADDITIONAL LOCAL RESOURCES HERE]

[ADD ADDITIONAL LOCAL RESOURCES HERE]

### Summary of National Green Building Programs

#### **Enterprise Community Partners Green Communities Criteria**

Green Communities is a major initiative led by Enterprise Community Partners (Enterprise). Established in September 2004, it is a five-year, \$555 million commitment to create more than 8,500 homes that deliver significant health, economic, and environmental benefits for low-income families and communities. The program establishes green building criteria and provides funding to assist developers in planning and construc-



tion. As of January 2008, Enterprise has invested over \$570 million in over 250 developments that will result in more than 11,000 homes that meet the Green Communities Criteria.

Projects developed under the criteria must satisfy all 40 mandatory elements and gain additional points (35 points for new construction or 30 for rehabilitation projects) from optional criteria. The criteria allow flexibility if a particular hardship is demonstrated and an alternative is proposed that meets the intent and accomplishes the same outcome as the criteria. Building projects that

conform to the criteria are eligible for grants, loans, and tax credit equity as incentives. This is currently the only national green building program that requires a minimum number of new homes or apartments to be dedicated to lower-income residents.

The criteria are divided into the following categories:

- Integrated Design Process
- Site, Location, and Neighborhood Fabric
- Site Improvements
- Water Conservation
- Energy Efficiency
- Materials Beneficial to the Environment
- Healthy Living Environment
- Operations and Maintenance

Optional criteria are available in Location and Neighborhood Fabric, Site Improvements, Energy Efficiency, Materials Beneficial to the Environment, and Healthy Living Environment. A review panel evaluates each project for grant approval. As part of the grant requirement, the grantee's architect and construction manager must self-certify compliance with the program criteria.

Mandatory Criteria: Yes, comprehensive Third Party Certification: No Building Performance Testing: Optional Units Certified/Completed as of June 30, 2008: 11,970 www.greencommunitiesonline.org

## US Green Building Council's Leadership in Energy and Environmental Design for Homes (LEED for Homes)

The U.S. Green Building Council (USGBC) administers the Leadership in Energy and Environmental Design (LEED) program. LEED for Homes is a voluntary initiative designed to actively promote the transformation of the mainstream home building industry toward more sustainable practices. The long-term goal is to recognize and reward the top 25% of new homes, in terms of environmental stewardship. LEED for Homes applies to market rate and affordable homes, as well single family and multifamily homes.

The program has completed its pilot phase and began its full program in 2008. The program includes mandatory and optional green construction practices in the following categories, for a total of 136 available points:

- Awareness and Education
- Location and Linkages
- Energy and Atmosphere
- Sustainable Sites
- Water Efficiency
- Indoor Environmental Quality
- Materials and Resources
- Innovation and Design Processes



Builders receive credits for achieving criterion in each of the eight criteria categories. LEED for Homes has several performance tiers termed Certified (45-59 points), Silver (60-74 points), Gold (75-89 points), and Platinum (90-136 points). The award level point thresholds are adjusted based on home size. A third-party Provider is responsible for determining the LEED for Homes score and the rating.

The costs of participation in the LEED for Homes Program are established by local or regional Providers plus a registration and certification fee to USGBC based on the number of homes or square footage of multifamily buildings (<a href="https://www.usgbc.org/DisplayPage.aspx?CMSPageID=147">www.usgbc.org/DisplayPage.aspx?CMSPageID=147</a>). The Provider is responsible for the third-party inspection and performance testing services. These verification and rating services generally require approximately 2 to 3 days per home. The costs vary depending on the size and location of the homes, and the number of green measures to be inspected and tested.

Mandatory Criteria: Yes, moderate Third-Party Certification: Yes Building Performance Testing: Yes

## ICC-700-2008 National Green Building Standard

The National Association of Home Builders (NAHB), the International Code Council (ICC) and the NAHB Research Center initiated a process in 2007 for the development of a national standard for green home building construction practices beyond current rating systems, following the consensus process of the American National Standards Institute (ANSI). The standard, entitled the "ICC-700 National Green Building Standard (NGBS)" is a voluntary green home building standard



that can be adopted by local green home building programs as a conformance guide for single-family, multi-family, remodeling, and site development projects.

The NGBS builds upon the NAHB Model Green Home Building Guidelines developed by the NAHB Research Center in 2004 (see NCHH's 2006 Comparison of Green Building Guidelines for an analysis of the NAHB Model Green Home Building Guidelines). ANSI approved NGBS in January 2009.

The NGBS includes a minimum number of mandatory construction practices and a mandatory minimum point score based on construction practice options under each principle. There are no maximum limits. For single-family homes, for example, projects reach a threshold by reaching specific point scores: 222 points for Bronze, 406 for Silver, 558 for Gold, and 697 for Emerald. In the indoor environmental quality category, the minimum score is 36 for Bronze, 65 for Silver, 100 for Gold, and 140 for Emerald.

Mandatory Criteria: Yes, limited (mandatory minimum points)

Third-Party Certification: Yes

Units Certified: NA

## U.S. Environmental Protection Agency Energy Star with Indoor Air Package Pilot Specifications

The U.S. Environmental Protection Agency (EPA) developed the Energy Star with Indoor Air Package (IAP) Pilot Specifications to recognize homes equipped with a comprehensive set of indoor air quality measures. IAP is targeted to production builders, which according to EPA are the most rapidly growing sector of the home building industry and are highly influential in home building trends. Homes that comply with these specifications can use "Indoor Air Package" as a complementary label to Energy Star for homes. As a prerequisite for this label, a home must first be Energy Star qualified. Energy Star is a performance-based program, which requires qualified homes to be at least 15 % more energy



efficient than homes built to the 2004 International Residential Code (IRC), and include additional energy-saving features that typically make them 20–30% more efficient than standard homes. IAP requires a suite of additional prescriptive measures, including:

- Moisture Control
- Radon Control
- Pest Control
- HVAC Systems
- Combustion Safety
- Building Materials
- Home Commissioning

Like Energy Star, IAP requires third-party verification through the Home Energy Rating System (HERS).

Mandatory Criteria: Yes, comprehensive

Third-Party Certification: Yes Building Performance Testing: Yes

Units Certified: Not Applicable (Pilot Program)

www.energystar.gov/index.cfm?c=bldrs\_lenders\_raters.nh\_iap

## Method of Analysis

We compared the criteria of the four national programs to a detailed list of healthy homes measures that are aligned with NCHH's seven healthy homes principles. Those principles involve keeping homes:

- Drv
- Clean
- Ventilated
- Safe
- Contaminant-Free
- Pest-Free
- Maintained

These principles were developed by a broad-based expert workgroup of housing and health professionals as part of the federally funded National Healthy Homes Training Center and Network. The principles reflect the latest in scientific research and best practices related to reducing housing-related health hazards. For more information see www.healthyhousing.org/training.

Table 1 presents a detailed analysis comparing each program to the NCHH criteria. The left column presents NCHH's recommended criteria for achieving the aforementioned principles. We compared each program to these criteria and assigned a score based on the following scoring system:

Score	Green Program Description
3	Includes mandatory criterion equivalent to NCHH criterion
2	Includes mandatory criterion similar to NCHH criterion
1	Includes <b>optional</b> criterion that is similar to NCHH criterion
0	Does not include similar criterion

Table 2 provides summary grades for each program, both by each healthy homes principle and overall. We established a target score for each category by multiplying the number of criteria under each healthy homes principle by 2.5 (average 2 and 3 of the scores listed above). For example, if half of the criteria in a category scored a 3 (i.e., half criterion were mandatory and equivalent to the NCHH standard) and half scored a 2 (i.e., were mandatory and similar but not equivalent to the NCHH standard), then the program would achieve 100% of the target score. The score of 2.5 acknowledges that some differences in the language for a specific criterion are likely and acceptable.

The overall grade (A, B, C, D) for the program was calculated by totaling the scores for all the criteria across categories. This provides all criterion equal weight in arriving at a total grade.

#### **Grading Key**

A+	>100% of target score, <i>all</i> NCHH criteria included
A	90-100% of target score.

В	80-89% of target score.
С	70-79% of target score.
D	<69% of target score.

This analysis did not assign a weighting factor to each individual criterion because there are generally insufficient scientific data to support such a judgment. The concept of healthy homes involves taking a holistic approach to the home environment by implementing packages of upgrades, which together can ensure the health, safety, and durability of a home. For this reason, the analysis does not credit programs for establishing a threshold number of points for optional items. By definition, this inclusion of optional items (even to achieve an overall point value) will entail trading off some indoor environmental quality item for another.

### Results

Tables 1 and 2 show the results of the analysis. The Enterprise Community Partners Green Communities Program and the EPA Indoor Air Package Programs ranked the highest among the programs included in the analysis. This is largely due to the fact that they include many mandatory criteria for the indoor environment. The LEED-H and ICC -700-2008 rating systems include a mixture of mandatory and optional criteria to achieve even the lowest LEED rating of "certifiable". It is not possible to assess the mix of criteria that a builder will select to comply with the standard. NCHH conser-



vatively rated optional criteria as a 1, thereby reducing the LEED-H score for all such criteria. The NGBS relies substantially on optional criteria with a minimal set of mandatory standards. As such the program received the lowest rating.

One reviewer suggested that optional criteria receive greater credit because the flexibility in scoring enables greater program participation. The reviewer also noted that several of the optional healthy homes criteria are pursued by the majority of program participants. The reviewer suggested multiplying the percentage of projects that incorporate the optional measure by the score a measure would have received it were mandatory as an alternative scoring system. For example, if "landscaping away from a building" would receive a score of 3 as a mandatory element, it would receive a 2.7 if 90% of the program participants selected it as an optional criterion. Although such a nuanced system may reflect a more precise view of the actual compliance with a program's criteria in a prior year, because programs cannot predict the optional criteria that future projects will select, NCHH felt that these programs could not be scored as highly as those based on mandatory criteria. In addition, NCHH believes that the healthy homes criteria are practical and cost-effective (e.g. avoiding installing carpets in wet areas) and so it is sensible to include them as prerequisites.

Across all the green programs, there is substantial variation in their performance under the *Dry* and *Contaminant-Free* categories with scores ranging from A to D. Energy Star IAP and Green Communities received an A under the Dry category (ENERGY STAR IAP, Green Communities, and LEED-H) because they require extensive moisture control practices. The LEED-H program addresses several aspects of moisture control through its Durability Plan requirement. One concern is that it is not possible to assess whether the plan will always include the most important moisture control elements. Nonetheless, because the durability plans are mandatory and will be evaluated as part of program participation, NCHH rated LEED-H's Dry criteria as similar to the NCHH specific requirements.

Ensuring structures are properly ventilated is particularly important because of the green building mandate to improve energy efficiency by tightening the building envelope. Energy upgrades can benefit occupant health by increasing comfort and reducing unplanned airflows which can result in moisture problems. Mechanical ventilation helps ensure contaminants and humidity are exhausted to the outside and that the home receives clean, fresh air. NCHH has identified the American Society of Heating, Refrigerating, and Air-Conditioning

Engineers standard 62.2 (ASHRAE 62.2, 2007) as the industry standard for ventilation for buildings of four stories or less, which should be included in all green and healthy programs. All the programs, except NGBS specifically reference ASHRAE 62.2 as the ventilation performance standard.

The evaluation indicates greater consistency across green programs for the *Pest-Free* and *Maintained* categories. All of the programs included criteria to minimize pest infestations following the least toxic methods and to educate homeowners about proper maintenance of their green homes. In contrast, all of the programs included in the analysis overlooked safety (e.g., preventing trips/falls and poisonings), even though the home is the predominant source of unintentional injuries for children in the United States. In addition, the programs missed opportunities to incorporate building finishes that are easy to keep clean (e.g. smooth, cleanable flooring), which help owners reduce allergens and contaminants that may accumulate in a home.

Finally, in this analysis we examined the extent to which the programs incorporate third-party verification. All of the programs, except Enterprise Green Commutities, require third-party verification. However, Green Communities does require its participants to certify compliance with the program criteria. It also conducts inspections nad performance testing of a sampling of units.

	Enterprise Community Partners Green Communities	ENERGY STAR Indoor Air Package	USGBC LEED Homes	ICC-700 National Green Building Standard
SAFE (5 Criteria – 12.5 points)				
Hot Water Temperature <120 F	0	0	0	0
Locked Medicine Storage Cabinets	0	0	0	0
Shower Grab Bars	0	0	0	0
Smoke Detectors	2	2	2	2
Carbon Monoxide Alarms	3	3	3	1
TOTAL	5 (40%)	5 (40%)	5 (40%)	3 (24%)
CONTAMINANT-FREE (7 Criteria – 17.5	points)			
Low VOC Products	3	0	1	1
Urea Formaldehyde Free Composite Wood Products or Sealed	3	3	1	1
Low VOC Carpet	3	3	1	1
Garage Isolation	3	3	1	2
Smooth Cleanable Low VOC Floors	1	1	1	1
Combustion Venting	2	3	3	1
Radon Test and Mitigation System	3	2	2	2
Smoke-free Policy – optional	0	3	0	1
Use Lead Safe Work Practices - optional applicable only to rehabilitation	3	na	na	3
TOTAL *does not include optional scores	18 (103%)	17 (97%)	10 (57%)	9 (51%)
PEST-FREE (1 Criterion – 2.5 points)				
Rodent Proof Materials	3	3	2	1
TOTAL	3 (120%)	3 (120%)	2 (80%)	1 (40%)
MAINTAINED (2 Criteria – 5 points)				
User's Manual for Health Features	3	3	3	3
Homeowner's Manual for Equipment and Certification	3	2	3	2
TOTAL	6 (120%)	5 (100%)	6 (120%)	5 (100%)
THIRD-PARTY VERIFICATION (1 Criter	ion - 2. 5 point	s)		
On-Site Inspection	2	3	3	3
TOTAL	2 (80%)	3 (120%)	3 (120%)	2 (120%)

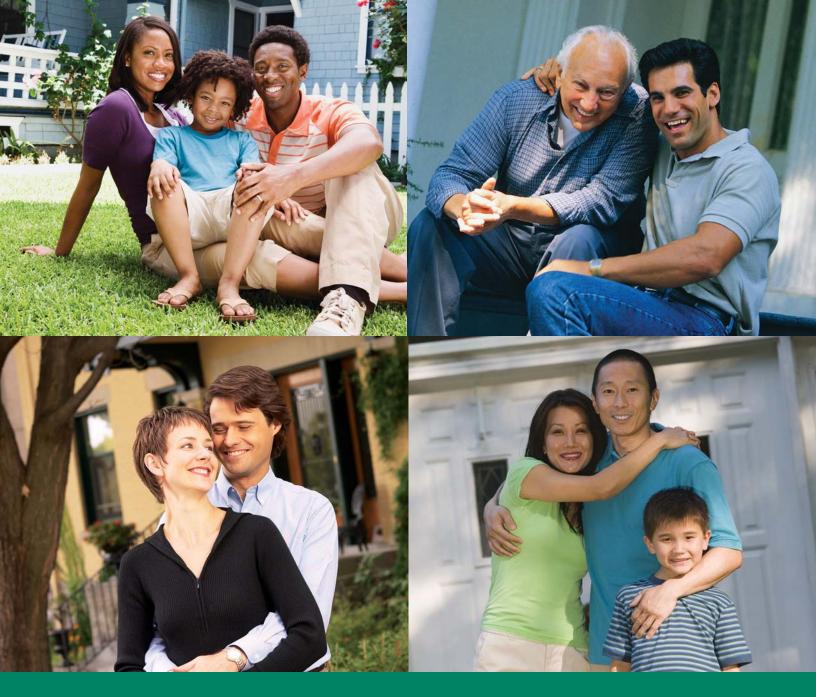
**Table 2: National Green Program Health Grades** 

Health Principles	Enterprise Community Partners Green Communities	EPA Indoor Air Package	USGBC LEED For Homes	ICC-700 National Green Building Standard
DRY	A	A	В	С
CLEAN	D	D	D	D
VENTILATED	A	A+	A	С
SAFE	D	D	D	D
CONTAMINANT-FREE	A	A	D	D
PEST-FREE	A+	A+	В	D
MAINTAINED	A+	A	A+	A
VERIFIED/CERTIFIED	В	A+	A+	A+
OVERALL GRADE *	В	В	С	D

 $<sup>^{\</sup>ast}$  Based on total score across all criteria in comparison to 85 target score

### **Grading Key**

<b>A</b> +	>100%, <i>all</i> NCHH criteria included
A	90-100% of target score.
В	80-89% of target score.
С	70-79% of target score.
D	<70% of target score.



U.S. Department of Health and Human Services

U.S. Department of Housing and Urban Development

# **Healthy Housing Inspection Manual**





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## **Preface**

THE **HEALTHY HOUSING INSPECTION MANUAL** completes the foundation of the Centers for Disease Control and Prevention's (CDC's) Healthy Homes Initiative. The manual reflects the ongoing commitment of both CDC and the U.S. Department of Housing and Urban Development (HUD) to work together to provide local jurisdictions with tools to address housing-related health hazards. Development of this manual was supported by the HUD and CDC Healthy Homes Initiatives.

The agencies' initiatives related to healthy homes were created to develop a holistic approach to healthy housing based on the following broad objectives:

- Broaden the scope of single-issue public health and safety programs—such as childhood lead poisoning prevention, residential asthma intervention, injury prevention to adopt a holistic approach addressing multiple housing deficiencies that affect health and safety.
- Build competency among environmental public health practitioners, public health nurses, housing specialists, housing owners, housing managers, and others who work in the community so they can incorporate healthy housing activities into their professional activities.
- Develop national healthy homes capacity through crossdisciplinary grants, contracts, and other activities at the federal, state, tribal, and community levels that research and demonstrate low-cost, effective home hazard assessment and intervention methods.
- Develop effective education and outreach materials, with a particular focus on high-risk populations, to increase public awareness of residential hazards and highlight effective actions households can take to reduce the risk for illness and injury.

The *Healthy Housing Inspection Manual* is a model reference tool that local jurisdictions or others may use as is or modify based on local needs. Use of the manual is expected to improve the effectiveness and efficiency of the public health, housing management, and workforces that identify, prevent, and control health problems associated with housing. The manual does not introduce any inspection requirements, nor does it modify any existing inspection requirements for housing agencies, residents, HUD, or CDC. The manual is not a substitute for the Federal Housing Administration (FHA) Minimum Property Standards. Finally, the manual does not propose to establish any regulatory authority for HUD or CDC with regard to residential inspection requirements.

The *Healthy Housing Inspection Manual* takes environmental health professionals and housing managers, specialists, and inspectors through the elements of a holistic home inspection. It is also a useful reference tool for nurses, outreach workers, and others who are interested in preventing illness and injury due to residential health and safety hazards.

The Healthy Housing Inspection Manual addresses the broad range of housing deficiencies and hazards that can affect residents' health and safety. The purpose of the manual is to

- improve communication and collaboration among public health professionals, housing professionals, property owners and property managers,
- increase the understanding of the relations among exposure to hazardous agents, conditions in the home, and adverse health outcomes, and
- improve the ability of programs to address an array of housing deficiencies in an efficient, effective, and timely manner.

HUD and CDC have also jointly developed and funded other important activities related to healthy homes, including

• a healthy housing curriculum that addresses the training needs of environmental public health practitioners, public health nurses, housing specialists, and others interested in building local capacity to address housing-related health hazards (Healthy Homes Training Center and Network, http://www.healthyhomestraining.org).

• the Healthy Housing Reference Manual, which gives public health and housing professionals the tools necessary to ensure that housing stock is safe, decent, and healthy for our citizens, particularly children and the elderly, who are often most vulnerable and spend more time in the home (http://www.cdc.gov/nceh/publications/ books/housing/housing.htm).

#### FORMAT OF THIS MANUAL

HUD and CDC recommend that section 1, the Healthy Housing Model Resident Questionnaire (a voluntary health assessment), be completed first. The questionnaire should be used to collect information that cannot be determined visually. Information from the questionnaire can provide important clues that point to housing deficiencies.

**SECTION 2**, the Visual Assessment Data Collection Form, should be used to collect information that can be determined without asking questions of a resident. This form includes detailed assessment of exterior housing, kitchen, bathroom, and living area, as well as a general building information.

This manual also contains three supporting appendices:

- a data dictionary that defines housing deficiencies listed in the Visual Assessment Data Collection Form:
- a cross-reference to code provisions in the 2003 International Property Maintenance Code (2003 IPMC); and
- additional resources (links to environmental sampling methods and to more information about substances or issues related to healthy housing).

## **Visual Survey Report**

Resident:									٧	isual	Cor	nduc	ted l	by:	
Alternate Co	ntact:														
Address:											Da	ite:			
Unit #	Unique ID														
Resident Pho	one:						L								
ndicate the exte	ark $(\checkmark)$ if the problem appears ent of the problem (see instruc $(*)$ above any room(s) where a	tions	s) Us	e the	extr	a rov ⁄s. Ciı	vs to	iden	tify a vhere	ny ot you	her h phot	nazar	ds yo	u not	tice.
PROBLEM		Exterior	Porch	Entryway	Living Room	Dining Room	Kitchen	Bedroom I	Bedroom 2	Bedroom 3	Bathroom I	Bathroom 2	Basement		
Deteriorated	Walls														
paint	Windows, door, or trim														
	Paint chips on floor		V///	////	////	////	////	////	////	////	7777	7777	////	7777	////
Soil with no gra	ass or mulch														
Cockroaches															
Rodents															
Holes in wall															
Mold/	Obvious source of moisture														
Mildew	No obvious source of moisture														
Water Damage	walls wet/newly stained														
Strong musty s	mell														
Natural gas/sev	ver gas smell														
	ven/dryer/heater														
Worn-out carp	-														
Other:	eung	////	1												
Other:															
Other:															
Other:															
Other:															
	eceived lead hazard disclosure					land		<u> </u>	Yes		No				

## Visual Survey Instructions

### I. Talk with the resident before you begin:

Explain that you will draw floor and site plans, take notes, take
photographs, collect samples, and possibly leave roach traps, a carbon
monoxide alarm, or radon detectors for more than one day.

- ☐ Explain what kinds of samples you plan to take after you finish the visual survey.
- ☐ If a tenant, ask whether the resident received lead hazard disclosure information from the landlord and note the response in the space provided at the bottom of the **Visual Survey Report**.

## 2. Survey the exterior and grounds and draw the Site Plan:

The Site Plan is a sketch of the area around the home where you will not any problems you identify and where you collect soil samples. See CEHRC's website for the Site Plan form and an example.

- ☐ Walk around outside the building to look at the overall layout of the property.
- On the **Site Plan**, draw the outline of the building and where it sits on the property.
- ☐ Label important features on the **Site Plan**:
  - The location of the street and other landmarks
  - Play areas
  - Trash areas (dumpster, trash collection area)
  - Outdoor parking areas
  - Garages or other buildings

### 3. Note hazards on Site Plan and Visual Survey Report:

- □ Note the following hazards, (I) on the Site Plan, AND (2) by making a check mark next to the name of the problem in the "exterior" column on the Visual Survey Report:
  - Bare soil (no grass, mulch, or wood shavings) in the yard around the home or in a common outdoor area: in play areas (in sand boxes, under swing sets, in areas where kids play), along the "dripline" within three feet of the building, and in other areas of the yard.
  - Deteriorated Paint (peeling, flaking, chipping, cracking):
    - Deteriorated in any way
    - Paint coming loose from the surface or substrate (wood, plaster, metal, drywall)
    - On the home, fences, etc.
  - Holes in the walls of the building. Look for openings around windows and doors.
- ☐ Indicate the <u>extent</u> of the problem for **deteriorated paint and water damage** by noting on the following on the Visual Survey Report:
  - $\bullet$  N = None
  - L = Low (less than  $2ft^2$ )
  - M = Moderate (2 10ft<sup>2</sup>)
  - $H = High (10ft^2 \text{ or more})$
  - E = Extreme (structural damage caused by this problem)
- □ Note the following hazards on the **Visual Survey Report** only:
  - Rodents or evidence: Note if you see, or the resident reports seeing, rats or mice, or very small pellets that may be rodent droppings.
  - Other physical conditions that seem hazardous, such as standing water, woodpiles near exterior walls, accumulated trash, obvious water damage or wood rot, and damaged gutters, downspouts and other

building components.

### 4. Draw one Floor Plan for each floor of the home:

The Floor Plan shows the layout of the rooms (as seen from above). The Floor Plan makes it easy for you to note where you identify problems. You will also use the Floor Plan to show where you collect samples, leave testing materials for collection, and take photographs.

The Floor Plan does not have to be drawn using exact measurements. It should show the general relationships between rooms in the home and exterior walls. See CEHRC's website for the Floor Plan for and an example.

layout of the rooms.
Draw the overall outline of the entire home.
If the home has more than one floor, note which floor each <b>Floor Plan</b> represents before you draw it. If the home has two floors, one copy of the floor plan will be marked " <b>I of 2</b> " and the other will be " <b>2 of 2</b> ". If you draw a plan for an unoccupied basement, mark it " <b>0</b> ".
Draw the walls between rooms, then the doors and windows:
a. Draw a rectangle for each door.
<b>b.</b> Draw a circle through the line of the wall for each window.
<b>c.</b> Mark the walls of closets to help you keep the walls in perspective and avoid confusion about the doors.
Label each room using the same names and abbreviations as listed on the <b>Visual Survey Report</b>
Draw an asterisk (*) in rooms where children sleep or play.
Be sure to note entryway of the home.

# 5. Perform the Visual Survey: note hazards on both the Floor Plan and Visual Survey Report

Fill in the top of the **Visual Survey Report** and cross out columns for rooms that are not present. Add names or areas if necessary. If you

do not have enough columns, use a second copy of the report and write "I of 2" on the first sheet and "2 of 2" on the second.

- ☐ Draw a star/asterisk (\*) next to the names of rooms where children sleep or play.
- □ In each room, look for the problems listed below. For each, (I) note the location of each problem on the floor plan using the abbreviation from the key below, AND (2) make a check mark (☑) next to the name of the problem in the column for that room on the Visual Survey Report.
  - a. Deteriorated paint (peeling, flaking, chipping, cracking paint):
    - Deteriorated in any way
    - Paint coming loose from the painted surface (wood, plaster, metal, drywall)
    - Teeth marks on the painted surface.
  - **b.** Cockroaches or their remains: Note the location if you see any cockroaches, their shells or debris, or if the resident reports seeing them.
  - **c.** Holes in walls between the inside and outside of the building and between rooms. Look for openings around windows and exterior doors.
  - **d.** Unvented gas oven, clothes dryer, or heater: An appliance that burns natural gas, kerosene, wood, or other fuel is "unvented" if it does not have a pipe or ductwork that sends the exhaust outside.
  - e. Mold or fungus or similar stains on the wall, on the carpet, under sinks, outside of showers, or around windows. On the Visual Survey Report, check "obvious source of moisture" if the mold is near a source such as a dripping drain or moisture around a window. If there is no obvious moisture source for the mold, check the other box.
- ☐ Indicate the <u>extent</u> of the problem for **deteriorated paint and water damage** by noting on the following on the Visual Survey Report:
  - $\bullet$  N = None
  - L = Low (less than  $2ft^2$ )
  - M = Moderate (2 10ft²)
  - $H = High (10ft^2 \text{ or more})$
  - E = Extreme (structural damage caused by this problem)

		On the <b>Visual Survey Report</b> only, note the following potential problems:
		<b>a.</b> Walls appear wet or newly stained, or the plaster or drywall is bulging.
		<b>b.</b> Rodents or evidence: Note if you see, or the resident reports seeing, rats or mice, or very small pellets that may be rodent droppings.
		c. Strong musty smell like mold or fungus.
		<b>d.</b> Natural gas or sewer gas smell. If you think you smell natural gas, advise the resident to call the gas company immediately.
		e. Old or worn-out carpeting if in poor condition or extremely dirty.
		<b>f.</b> Other: write in additional physical conditions that seem problematic (such as other odors, water leaks, etc.)
6. D		uble-check the Visual Survey Report, Floor Plan, and Site Plan:  The resident's name, address, and unit number, and your name should
	_	be filled in.
		Make sure the names of the rooms on the Floor Plan(s) match those on the Visual Survey Report.
7 D	۵t	ermine further testing needs and locations:
•••		de la cher testing needs and locations.
	Pla	n to take samples if you have identified any of the following:
		Deteriorated paint (lead)
		Bare soil (lead)
	П	Water damage (lead, mold and moisture)

☐ Cockroaches or evidence

☐ Unvented appliances (carbon monoxide)

# 8. Provide follow-up instructions, schedule the next visit, and thank the resident:

☐ Explain approximately when and how the **Summary Results Report** will be presented.

Schedule a time when someone will be home if you need to return to collect tests for carbon monoxide, cockroaches or radon, and note this on the Visual Survey Report.

## Pediatric Environmental Home Assessment

### **HOME VISIT EXERCISE ANSWER SHEET**

#### **RESIDENT REPORTED INFORMATION**

**Bolded** responses indicate areas of greater concern.

General Housing Characteristics					
Туре	of ownership	☐ Own house	☐ Market rate rental hsg.	Subsidized rental hsg.	☐ Shelter
Age o	of home	☐ Pre-1950	<b>1950 -1978</b>	☐ Post-1978	☐ Don't know
Struc	tural foundation	□ Basement	☐ Slab on grade	☐ Crawlspace	☐ Don't know
Floors lived in (check all that apply)		□ Basement	☐ 1 <sup>st</sup>	□ 2 <sup>nd</sup>	☐ 3 <sup>rd</sup> or higher
	Fuel used	☐ Natural gas / LPG	□ Oil	□ Electric	□ Wood
Heating	Sources in home	☐ Radiators	☐ Forced hot air vents	☐ Space heater or oven	☐ Other:
Heat	Filters changed	☐Yes	□ No	☐ Don't know	☐ No filter
	Control	☐ Easy to control heat	☐ Hard to control heat		
Cooling		☐ Windows	☐ Central/window AC	□ Fans	☐ None
Ventilation		Opens windows	☐ Kitchen & bathroom	☐ Central ventilation	
(check all that apply)			fans		

NOTES:

Mold	and moisture	<ul><li>☐ Uses dehumidifier</li><li>☐ No damage</li></ul>	<ul><li>Uses vaporizer or humidifier</li></ul>	☐ Musty odor evident	☐ Visible water / mold damage
	Presence	☐ No pets	□ Cat #	□ Dog #	☐ Other:
Pet	Management	☐ Kept strictly outdoors	☐ Not allowed in patient's bedroom	☐ Full access in home	☐ Sleeping location:
	Cockroaches	□ None	☐ Family reports	☐ Evidence seen	Present in ☐ kitchen ☐ bedroom ☐ other
Pests	Mice	□ None	☐ Family reports	☐ Evidence seen	Present in ☐ kitchen ☐ bedroom ☐ other
Pe	Rats	□ None	☐ Family reports	☐ Evidence seen	Present in ☐ kitchen ☐ bedroom ☐ other
	Bedbugs	□ None	☐ Family reports	☐ Evidence seen	Present in 🗅 bedroom
Lead paint hazards		☐ Tested and passed	☐ Tested, failed, and mitigated	☐ Not tested/Don't know	<ul><li>Loose, peeling, or chipping, paint</li></ul>
Asbestos		☐ Tested – None present	☐ Tested, failed, and mitigated	☐ Not tested/Don't know	☐ Damaged material
Rado	n	☐ Tested and passed	☐ Tested, failed, and mitigated	☐ Not tested/Don't know	☐ Failed test but not mitigated
Healt	h and Safety Alarms	☐ Smoke alarm working and well placed	☐ CO alarm working and one on each floor	□ CO alarm does not log peak level	□ No smoke alarm □ No CO alarm
Tobacco smoke exposure		■ No smoking allowed	☐ Smoking only allowed outdoors	☐ Smoking allowed indoors ☐ bedroom ☐ playroom	☐ Total # smokers in household: ☐ Mother smokes
Other irritants		☐ None	☐ Air fresheners	☐ Potpourri, incense, candles	☐ Other strong odors:
Type of cleaning		☐ Standard Vacuum (non HEPA)	☐ HEPA vacuum	☐ Damp mop and damp dusting	☐ Sweep or dry mop
Cleaning products used		☐ Labeled non-toxic	☐ Bleach	□ Ammonia	☐ Other:

#### **NURSE OBSERVED INFORMATION**

**Bolded** responses indicate areas of greater concern.

Home Environment					
Drinking '	Water Source	☐ Public water system	☐ Household Well		
Kitchen	Cleanliness	☐ No soiling	☐ Trash or garbage sealed	☐ Trash or garbage not sealed	☐ Wall/ceiling/floor damage
Kitc	Ventilation	☐ Functioning stove exhaust fan/vent	☐ Mold growth present	☐ Broken stove exhaust fan/vent	☐ No stove exhaust fan/vent
Bathroom	1	☐ Functioning exhaust fan/vent/window	☐ Mold growth present	☐ Needs cleaning and maintenance	☐ Wall/ceiling/floor damage
Basemen	t	□ None/No Access	☐ Mold growth present	■ Needs cleaning and maintenance	☐ Wall/ceiling/floor damage
Living Ro	oom	☐ No soiling	☐ Mold growth present	☐ Needs cleaning and maintenance	☐ Wall/ceiling/floor damage
Laundry a	area	□ None	☐ Well maintained	☐ Dryer not vented	☐ Hang clothes to dry
Sleep Env	vironment				
Patient's	sleep area	☐ Own room	☐ Shared # in room	☐ Other	
# Beds		<b>0</b> 0	<b>1</b>	<b>□</b> 2	☐ More than 2
Allergen impermea	able s on beds	☐ On mattress and boxspring (zippered)	☐ On mattress only (zippered)	☐ On mattress (not zippered)	□ No mattress covers
Pillows		☐ Allergen-proof	☐ Washable	☐ Feather/ down	
Bedding		☐ Washable	☐ Wool/not washable	☐ Feather/ down	
Flooring		☐ Hardwood/Tile/Linoleum	☐ Small area rug	☐ Large area rug	☐ Wall-to-wall carpet
to		<ul><li>☐ Stuffed animals/washable toys</li><li>☐ No clutter</li></ul>	☐ Non-washable toys	□ Plants	□ Other
		☐ Washable shades/ curtains	■ Washable blinds	☐ Curtains/ drapes	☐ No window/ poor ventilation
Other irrit	tants	☐ Abundant cosmetics and fragrances			

Home Safety * can indicate housing code violations			
General			
Active renovation or remodeling	☐ Yes	□ No	
*Stairs, protective walls, railings, porches	☐ Yes	□ No	
*Hallway lighting	☐ Adequate	☐ Inadequate	
Poison control number	☐ Posted by phone	☐ Not posted by phone	
**Family fire escape plan	☐ Developed and have copy available	☐ None	

Electrical appliances (radio, hair dryer, space heater)	☐ Not used near water	☐ Used near water BATHROOM		
Matches and lighters stored	<ul><li>Out of child's reach</li></ul>	☐ Within child's reach		
Exterior environment	☐ Well maintained	<ul><li>Abundant trash and debris</li></ul>	☐ Chipping, peeling paint	☐ Broken window(s)

#### **NURSE OBSERVED INFORMATION (continued)**

Child Safety			
Young Children Present	□ Yes	□ No	
Coffee, hot liquids, and foods	☐ Out of child's reach	☐ Within child's reach	
Cleaning supplies stored	☐ Out of child's reach	☐ Within child's reach	
Medicine and vitamins stored	☐ Out of child's reach	☐ Within child's reach	
Child (less than six years old) been tested for lead poisoning	☐ Within past 6 months Result:	☐ Within past year or more. When? <1 year Result: <10	□ No
Child watched by an adult while in the tub	☐ Always	☐ Most of the time	□ No
*Home's hot water temperature	□<120 F	□ >120 F	☐ Don't know
Non-accordion toddler gates used	☐ At top of stairs	☐ At bottom of stairs	□ No
Crib mattress	☐ Fits well	□ Loose	□ NA
Window guards	□Yes	□ No	
Window blind cords	□ Split cord	☐ Looped cord	

#### **NOTES:**

Funded by The U.S. Environmental Protection Agency



and developed by



### **National Center for Healthy Housing**

10227 Wincopin Circle, Suite 200 • Columbia, MD 21044 • Tel. (410) 992-0712 www.centerforhealthyhousing.org

With thanks to

N • E • E • T • F

The National Environmental Education & Training Foundation
We credit its Environmental Management of Pediatric Asthma: Guidelines for Health Care Providers
and model Pediatric Environmental History Form



The Center for Healthy Homes and Neighborhoods at Boston University
We credit its model Pediatric Asthma-Allergy Home Assessment form

#### **Pediatric Environmental Home Assessment Form**

#### **NURSING PLAN OF ACTION**

After completing the assessment, use this as a guide for patient education and recommending corrective action for potential residential hazards. This care plan does not address education related to medical management of asthma or other conditions.

<b>General Housing Characte</b>	eristics	
CONCERN	NURSE TO DO	FAMILY TO DO
Age of home	□ If built before 1978, educate as follows:  ○ Home is likely to have lead paint. ○ Lead hazards can be harmful to young children's health and development. ○ If family has a child less than six years old then it is important to test for lead hazards. ○ If deteriorated paint is observed, encourage family to place temporary barriers to prevent children's contact with the paint. □ Get more information about lead testing at www.epa.gov/lead/ and provide to family. □ Get more information on lead safe work practices from http://www.hud.gov/offices/lead/training/index.cfm and provide to family. □ Have information on state and local CLPPP services and provide to family. □ Be prepared to demonstrate lead-safe cleaning techniques □ Review items in "Family To Do" column with family.	<ul> <li>☐ If your child is less than six years old, contact the childhood lead poisoning prevention program (CLPPP) at your state and local departments of health.</li> <li>☐ Consider getting a lead paint inspection or risk assessment to determine whether there are lead hazards in your home.</li> <li>☐ If there are hazards, repair them based on state and local regulations and requirements. Consult with state CLPPP or Dept. of Environment for lists of trained contractors.</li> <li>☐ If planning "do-it-yourself" repairs, take a Lead Safe Work practices course and follow the instructions in "Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work", or other state and local guidance.</li> <li>☐ Until potential paint hazards can be addressed, place temporary barriers to children's contact with deteriorated paint and begin damp mopping and dusting windows, doors, trim, and floors as demonstrated.</li> </ul>
Heating source - Other: Kerosene heaters, space heaters, fireplaces, wood stoves	<ul> <li>□ Counsel family about the dangers of such heating sources in terms of fire safety and indoor air quality.</li> <li>□ Get more information about indoor air quality and combustion sources in the home at <a href="http://www.epa.gov/iaq/combust.html">http://www.epa.gov/iaq/combust.html</a> and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Make sure kerosene heaters are vented to the outdoors or not used.</li> <li>□ Make sure space heaters are at least 3 feet from anything flammable.</li> <li>□ When necessary, use only 12 or 14 gauge extension cords (the lower the better).</li> <li>□ Ensure that there is a good seal on fireplace screen or woodstove doors.</li> <li>□ Do not use charcoal grills to heat or cook inside the home.</li> <li>□ Call utility company immediately if you smell natural gas. Open window and evacuate the home of people and pets.</li> </ul>
Filters	□ Counsel family to do proper filter maintenance. □ Review items in "Family To Do" column with family.	□ Change filters quarterly. □ Use filters which are rated MERV 10.

Indoor Pollutants				
CONCERN	NURSE TO DO	FAMILY TO DO		
Vaporizers/Humidifiers	<ul> <li>Counsel the family about the importance of proper vaporizer/humidifier maintenance and impact of mold growth on patient health.</li> <li>Get more information about humidifier maintenance at <a href="http://www.epa.gov/iaq/pubs/humidif.html">http://www.epa.gov/iaq/pubs/humidif.html</a> and provide to family.</li> <li>Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Change the water daily with clean cold water.</li> <li>□ Use distilled or demineralized water.</li> <li>□ Clean humidifier every 3 days. Follow manufacturer's instructions.</li> <li>□ Change filter regularly. Follow manufacturer's instructions. Change more often if dirty.</li> <li>□ Keep surrounding area dry.</li> <li>□ Drain and clean humidifier before storing.</li> <li>□ Only run humidifier a few hours a day to avoid mold growth.</li> </ul>		
Mold/Musty odor	<ul> <li>□ Educate family about the importance of keeping things dry and the impact of mold on family health.</li> <li>□ Get more information at <a href="http://www.epa.gov/mold/moldguide.html">http://www.epa.gov/mold/moldguide.html</a> and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Any mold or musty odor must be investigated for a source of water. Examine plumbing, roofing, or other possible leaks.</li> <li>□ If homeowner, make necessary repairs.</li> <li>□ If renter, talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations.</li> <li>□ Run bathroom and kitchen fans for at least 30 minutes to remove moisture. Wipe shower walls after bathing.</li> <li>□ Wipe condensation from windows regularly.</li> <li>□ Do not hang clothes inside the house to dry.</li> <li>□ Contact local health department if you smell "rotten eggs" or sewer-type gas in the home.</li> </ul>		

Indoor Pollutants (continu		
CONCERN	NURSE TO DO	FAMILY TO DO
Pets	□ If patient is allergic to pets, educate as follows:  ○ Pets should not be allowed in bedrooms.  ○ If possible, pets should be given away.  ○ If pets cannot be given away, wash and groom pet to reduce allergens.  □ Identify low-cost sources/loaner programs for HEPA vacuums and provide information to family.  □ Review items in "Family To Do" column with family.	<ul> <li>If symptomatic, get allergen testing to determine if you are allergic to pets.</li> <li>Frequently vacuum areas where pets spend time. Use a HEPA- vacuum if possible.</li> <li>Wash all bedding regularly in hot water.</li> <li>Groom pets outside.</li> </ul>
Infestations (mice, rats, cockroaches)	<ul> <li>□ Educate family about pest management and behavior change.</li> <li>□ Identify resources in the local community for Integrated Pest Management services or equipment.</li> <li>□ Identify local health department numbers for rodent control and inspection and provide to family.</li> <li>□ Get more information and order print materials at www.epa.gov/pesticides/catalogue and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Eliminate water and food sources. Seal garbage and all foodstuffs. Look for water leaks.</li> <li>□ Call local board of health for inspection.</li> <li>□ AVOID "bombs" of pesticides. Use baits, gels and traps. Place these out of child's reach/</li> <li>□ Hire, or talk to your landlord about hiring, an exterminator for "Integrated Pest Management" which does NOT include spraying pesticides.</li> </ul>
Lead paint hazards	<ul> <li>□ See "Age of Home" above.</li> <li>□ Have information on state and local CLPPP services and provide to family.</li> <li>□ If family has a history with a history of elevated blood lead levels, verify that the family is receiving case management from the state or local CLPPP. Or make a referral to that program. Report observations and teaching provided at this visit to the CLPPP case manager</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	□ See "Age of Home" above.
Radon	□ Be familiar with the areas of high radon in your community.     □ Educate family about impact of radon on health.     □ Get more information about radon and radon testing at <a href="www.epa.gov/radon/">www.epa.gov/radon/</a> and provide to family.     □ Review items in "Family To Do" column with family.	□ Consider purchasing a radon home test kit. □ Consult with your state and local departments of health about radon.
Asbestos	<ul> <li>□ Educate family about impact of asbestos on health.</li> <li>□ Get more information about asbestos testing at <a href="https://www.epa.gov/asbestos/">www.epa.gov/asbestos/</a> and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Do not disturb any surfaces which might contain asbestos. Do not attempt to remove asbestos on your own.</li> <li>□ If cracked or crumbling asbestos insulation is visible, tack plastic to walls to encase the insulation until a trained contractor can address the problem.</li> <li>□ Consult with your state and local departments of health about asbestos.</li> </ul>

Smoke alarm/CO alarm	☐ If no smoke alarms, educate about risks and local ☐ If no smoke alarms, then:
	<ul> <li>laws regarding the presence of smoke alarms.</li> <li>□ Counsel family to:</li> <li>○ Install smoke alarms in home on every level and in every sleeping area.</li> <li>○ Test them once a month.</li> <li>○ Replace the batteries at least twice a year.</li> <li>○ Replace alarms every 10 years.</li> <li>□ If combustion appliances but no CO alarms, educate about risks and local laws regarding the presence of CO alarms. Change batteries twice a year.</li> <li>□ Provide occupant with local CO alarm requirements.</li> <li>□ Review items in "Family To Do" column with family.</li> <li>○ Purchase smoke alarms. Ensure that there is an operational smoke alarm on every floor of the home and in every sleeping area.</li> <li>○ Call local board of health for local smoke alarm requirements. Some states have laws regarding presence of smoke alarms.</li> <li>○ Call local board of health for local smoke alarm requirements.</li> <li>○ Make sure to purchase CO alarms which log peak levels.</li> <li>○ Ensure that there is an operational smoke alarm on every floor of the home and in every sleeping area.</li> <li>○ Call local board of health for local smoke alarm requirements. Some states have laws regarding presence of smoke alarms.</li> <li>○ Make sure to purchase CO alarms which log peak levels.</li> <li>○ Ensure that there is an operational CO alarm on every floor of the home and in every sleeping area.</li> <li>○ Some states now have laws regarding presence of CO alarms.</li> <li>If the power goes out, do not burn candles, use other heating sources unless there is a supply of fresh air in the room at all times.</li> </ul>
Tobacco Smoke  Exposure	<ul> <li>□ Educate about risks of environmental tobacco smoke (ETS) to children.</li> <li>□ Identify local smoking cessation programs and provide to families.</li> <li>□ Get more information about ETS at http://www.epa.gov/smokefree/index.html and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> <li>□ Choose not to smoke in your home and car and do not allow family and visitors to do so. Infants and toddlers are especially vulnerable to the health risks from secondhand smoke.</li> <li>□ Do not allow childcare providers or others who work in your home to smoke.</li> <li>□ Until you can quit, choose to smoke outside. Moving to another room or opening a window is not enough to protect your children.</li> <li>□ Get help to stop smoking. Refer to EPA Smokefree Home pledge website www.epa.gov/smokefree and contact local smoking cessation services.</li> <li>□ Do not burn candles, incense, or other products in the home if children or adults with respiratory problems live there.</li> </ul>

Home Environment				
CONCERN	NURSE TO DO	FAMILY TO DO		
Other Irritants (scents, potpourri)	□ If air fresheners present, educate as follows:  ○ Many air fresheners have volatile organic compounds (VOC) which trigger asthma. Avoid these products whenever possible.  □ Get more information about VOCs at <a href="http://www.epa.gov/iaq/voc.html">http://www.epa.gov/iaq/voc.html</a> and provide to family.  □ Review items in "Family To Do" column with family.	<ul> <li>□ Remove air fresheners from home.</li> <li>□ Do not use products to "freshen" carpets.</li> <li>□ Use cleaners/detergents labelled "fragrance-free".</li> </ul>		
Cleaning	<ul> <li>□ Educate about benefits of wet mopping.</li> <li>□ Identify low-cost sources/loaner programs for HEPA vacuums and provide information to family.</li> <li>□ Demonstrate the 3-bucket lead safe cleaning practices if deteriorated paint is observed.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>Avoid dry mopping or sweeping which makes dust airborne and may trigger an asthma exacerbation. Use wet mopping instead.</li> <li>Use a HEPA-vacuum when possible.</li> </ul>		
Drinking Water Source – Public water supply	<ul> <li>☐ Know local resources for water testing and provide to family.</li> <li>☐ Get more information about water testing at www.epa.gov/safewater/labs</li> <li>☐ Find out if the public water supplier has notified consumers of any violations of health-based standards in the last year. Provide this to family.</li> <li>☐ Review items in "Family To Do" column with family</li> </ul>	<ul> <li>□ Test water for lead. Contact local or state department of health for water testing information.</li> <li>□ Run water each morning for at least 3 minutes to clear pipes.</li> <li>□ Use cold water to make formula.</li> </ul>		

Home Environment (continued)				
CONCERN	NURSE TO DO	FAMILY TO DO		
Drinking Water Source – Household well water	<ul> <li>□ Ask these additional questions:         <ul> <li>Has the water been tested within the last year?</li> <li>If water has been identified as contaminated, does family use bottled water?</li> <li>Are infants, pregnant women in the household? If so, encourage testing for nitrates.</li> <li>Are there noticeable changes in water taste, odor, color or clarity? (In this case, especially if pregnant woman or infant is in the household, recommend testing more than once a year).</li> <li>Has there been a chemical or fuel spill leak near water supply? (If yes, recommend testing for chemical contaminants, such as volatile organic compounds).</li> <li>□ Provide local health department contactt information for water testing.</li> <li>□ Get more information about water testing at www.epa.gov/safewater/labs</li> <li>□ Review items in "Family To Do" column with family.</li> </ul> </li> </ul>	<ul> <li>□ Test well water for lead, nitrates, and bacteria annually. Contact local or state department of health for water testing information.</li> <li>□ Family should never dump chemicals into the yard or septic system. This prevents well drinking water contamination.</li> <li>□ Avoid use of pesticides and fertilizers in the yard whenever possible. These can filter into water supplies.</li> <li>□ Run water each morning for at least 3 minutes to clear pipes.</li> <li>□ Use cold water to make formula.</li> </ul>		
Mold	□ See "Mold and Musty Odor" recommendations above.Review items in "Family To Do" column with family.	<ul> <li>□ See "Mold and Musty Odor" recommendations above.</li> <li>□ Make sure fans in bathroom and kitchen vent to the outside, not just in to walls. The goal is to take moisture out of home.</li> </ul>		
Damage	<ul> <li>Educate about mold risks as they relate to damage.</li> <li>If family owns home, then counsel to change behaviors.</li> <li>If family rents home, then counsel them to talk with their landlord.</li> <li>Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>☐ If homeowner, then make necessary repairs.</li> <li>☐ If renter, then talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations.</li> </ul>		

Sleeping Area				
CONCERN	NURSE TO DO	FAMILY TO DO		
Mattress covers	<ul> <li>☐ If patient is allergic to dust mites, educate as follows:         <ul> <li>○ Use allergen impermeable mattress covers with zippers on beds and pillows.</li> </ul> </li> <li>☐ Review items in "Family To Do" column with family.</li> </ul>	☐ If symptomatic, get allergen testing to determine if you are allergic to dust mites.		
		☐ Wash all bedding weekly in hot water. Including blankets, bed covers.		
		☐ Wet wipe or vacuum impermeable mattress covers weekly.		
Carpet	☐ Review items in "Family To Do" column with family.	<ul> <li>☐ Clean wall to wall carpet with vacuum weekly.</li> <li>☐ Shake area rugs outside weekly.</li> <li>☐ If carpet is more than 8 years old, consider replacing it with smooth wipeable flooring to reduce dust exposure.</li> </ul>		
Dust catchers	☐ Review items in "Family To Do" column with family.	<ul> <li>☐ Reduce dust with less clutter.</li> <li>☐ Seal clutter in bags or boxes.</li> <li>☐ Use wire shelving so dust can settle to closet floors and be vacuumed up.</li> </ul>		
Windows	☐ If patient is allergic to dust mites, review items in "Family To Do" column with family.	☐ If symptomatic, get allergen testing to determine if you are allergic to dust. ☐ Use window treatments that are wipeable. ☐ Avoid curtains and drapes to reduce excessive dust exposure. ☐ Use window guards or prevent windows from opening more than 4" if young children are in the room.		

Home Safety				
General Safety				
CONCERN	NURSE TO DO	FAMILY TO DO		
Renovation/remodeling	□ See "Age of Home" above. □ Review items in "Family To Do" column with family.	□ See "Age of Home" above. □ If the home was built pre-1978 and there is a child less than six years old: ○ Get a lead paint inspection or risk assessment. ○ Repair any lead hazards based on state and local regulations and requirements. Consult with state CLPPP. □ If the home was built pre-1978 and there is no child less than six years old: ○ Consult with the CLPPP at your state and local departments of health about lead-safe renovation. ○ Change behaviors, such as modifying dust generating techniques and containing the work area. ○ Hire contractors trained in Lead Safe Work Practice or get this training if you are doing the work yourself.		
Stairs, walls, railings, porches, lighting	<ul> <li>☐ If family owns home, then counsel to change behaviors, such as making minor repairs to fix loose railings.</li> <li>☐ If family rents home, then counsel them to talk with their landlord.</li> <li>☐ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>☐ If homeowner, make necessary repairs consistent with local building codes</li> <li>☐ If renter, talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations.</li> <li>☐ Spaces between railings should be no more than 4" to prevent accidental injury.</li> <li>☐ Compact fluorescent light bulbs can reduce energy costs.</li> <li>☐ Do not use throw rugs near stairs or in bathrooms. These can be trip and fall hazards.</li> </ul>		
Poison control	<ul> <li>□ Provide national poison control number 1-800-222-1222 to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	□ Post the national poison control number 1-800-222-1222 near telephone. □ Keep all medicines, vitamins, cleaners, pesticides, paints, solvents, and other chemicals out of sight and out of reach of children, in locked cabinets wherever possible.		

General Safety (continued)		
CONCERN	NURSE TO DO	FAMILY TO DO
Family fire escape plan	<ul> <li>□ Counsel to change behaviors, such as develop a family safety plan.</li> <li>□ Get more fire safety information at <a href="http://www.usa.safekids.org/sites/default/files/documents/fpw_checklist.pdf">http://www.usa.safekids.org/sites/default/files/documents/fpw_checklist.pdf</a></li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Develop a family safety plan.</li> <li>□ Know two ways out of the house.</li> <li>□ Have a place to meet after you are outside the house.</li> <li>□ Teach children the family safety plan for escaping your home in a fire.</li> <li>□ Practice plan at least twice a year.</li> </ul>
Electrical appliance	□ Counsel to change behavior. □ Review items in "Family To Do" column with family.	<ul> <li>□ Do not use electrical appliances near water.</li> <li>□ Have Ground Fault Circuit Interrupters installed on electrical outlets near water.</li> <li>□ Use outlet covers.</li> <li>□ Repair or throw away any appliance with frayed wiring.</li> </ul>
Matches and lighters	☐ Counsel to change behavior. ☐ Review items in "Family To Do" column with family.	☐ Do not store matches and lighters where children can reach them.
Exterior environment	□ If abundant trash and debris, counsel family about waste management. □ If waste containment is the problem, counsel family to talk with landlord. □ See "Infestations" above. □ If the home was built pre-1978, contact the childhood lead poisoning prevention program (CLPPP) at your state and local departments of health for information about chipping, peeling paint. See "Age of Home" above. □ Review items in "Family To Do" column with family.	<ul> <li>□ See "Infestations" above.</li> <li>□ See "Age of Home" above.</li> <li>□ Inspect children's outdoor play equipment annually and repair as needed.</li> <li>□ Make sure that there is no bare soil, peeling paint, animal feces in play areas.</li> <li>□ Water sources (pools, ponds) should be feneced. Children should be supervised around water at all times.</li> </ul>
Young Children		
CONCERN	NURSE TO DO	FAMILY TO DO

Hot liquids/cleaning supplies/medicines	<ul><li>□ Counsel to change behaviors.</li><li>□ Review items in "Family To Do" column with family.</li></ul>	□ Do not have hot liquids, cleaning supplies, or medicines within a child's reach.
		☐ Keep pot handles and stove knobs out of children's reach.
Lead testing for children less than 6 years old	<ul> <li>☐ If the home was built pre-1978, counsel the family to have the child's blood tested for lead.</li> <li>☐ See "Age of Home" above.</li> <li>☐ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>Contact the childhood lead poisoning prevention program (CLPPP) at your state and local departments of health about lead testing resources.</li> <li>See "Age of Home" above.</li> </ul>
Child watched by an adult while in tub	<ul> <li>Counsel to change behavior.</li> <li>Educate family about importance of not leaving children unattended in the tub.</li> <li>Review items in "Family To Do" column with family.</li> </ul>	☐ Do not leave children unattended in the tub.
		☐ Test water temperature with forearm before placing child in tub.
Hot water temperature	<ul><li>□ Educate family about dangers of scalding.</li><li>□ Review items in "Family To Do" column with family.</li></ul>	☐ Set hot water temperature to <120 F

Toddler gates	<ul> <li>□ Counsel family to install non-accordion toddler gates at the top and bottom of stairways.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>Contact local injury prevention program to determine whether there are toddler gate resources available.</li> <li>Install non-accordion toddler gates at the top and bottom of stairways.</li> </ul>
Young Children		
CONCERN	NURSE TO DO	FAMILY TO DO
Crib mattress	<ul> <li>□ Counsel family that crib mattress should fit snugly next to the crib so that there is no gap.</li> <li>□ If two adult fingers can be placed between the mattress and the crib, then counsel the family to immediately replace the mattress.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Put your baby to sleep in a crib with a firm, flat mattress and no soft bedding underneath.</li> <li>□ Ensure that your crib mattress fits snugly next to the crib so that there is no gap.</li> <li>□ Infants should always be put to bed on their backs, not face-down.</li> <li>□ Do not hang toys across crib.</li> <li>□ Bars on crib should be no more than 4" apart.</li> </ul>

☐ Contact local injury prevention program to determine whether there are

window guard resources available.

☐ Keep window blind cords out of children's reach

☐ Purchase childproofing items for cord safety.

☐ Install window guards.

☐ Counsel family about window safety.

resources available.

items for cord safety.

☐ Contact local injury prevention program to

determine whether there are window guard

□ Review items in "Family To Do" column with family.□ Counsel family to keep window blind cords out of

children's reach and to purchase childproofing

☐ Review items in "Family To Do" column with family.

Window guards

Window blind cords

#### **Pediatric Environmental Home Assessment Scenario**

The scenario is fictional. The photos are taken from a variety of homes to highlight key issues.

For the sake of the exercise, take on the role of a public health nurse conducting a pediatric environmental home visit.

It is a warm summer day and you are going out on a home visit to see a family. The family has a six-year old child who has, and is being treated for, asthma. The mom has concerns about recent exacerbations in her child's asthma and the need for more frequent use of "rescue" inhalers.

You note that the family lives in a multi-family building in an urban neighborhood. The building appears to have been built in the late 1950s. That is consistent with other buildings in the neighborhood. Given its urban location, you know that the home is connected to a public water system.

As you go along, you make notes and check off any relevant information on the <u>PEHA Survey form</u>. Let's get started!

#### Welcome and Introductions

- View "Welcome and Introductions" video clip (7.5 MB).
- View photos of basement conditions.
- View photos of outside conditions.

As you talk further, the mom reports that she is a Section 8 tenant. When she moved in, she says the landlord told her that the house was built in 1958 and that lead hazard control work was completed before she moved in 18 months ago. She could not remember getting any booklet or warnings about lead when she signed her lease.

You ask the mom about other general housing characteristics. She knows there is a basement but has not been in there. She says she has seen the oil truck connect up to the fittings on the side of the house. She shows you the unlocked door to the basement in the common area. You check out the basement.

The mom says that the oil heat can be hard to control in the winter. Some rooms are too hot and others are too cold. She sometimes has to open windows to make the rooms comfortable.

You observe, and the mom reports, that there are no pets in the home.

The mom is focused on the construction dust and mice. She says she has not seen any mold. You follow along on the <u>PEHA Survey Form</u> and ask about other pests. The mom reports no trouble with cockroaches, rats, or bedbugs.

You ask about asbestos and radon. The mom reports that she has no knowledge about whether the building has been tested or treated.

You do not observe any air fresheners or scented candles present, but you ask about their use. The mom confirms that she does not use those items because they aggravate her child's asthma.

Next you do a kitchen walkthrough with the mom.

#### Kitchen

- View "Kitchen Walkthrough" video clip (5.8 MB).
- View photos of other kitchen conditions.

You review the PEHA Survey Form and ask to move on to the bedroom and bathroom.

#### Living Room Walkthrough and Neighborhood Review

- View "Living Room Walkthrough and Neighborhood Review" video clip (3.2 MB).
- <u>View photos of living room conditions.</u>

You note the active construction outside and the dust that is accumulating in the window sill even though the window is closed. You also note that there are no window guards on the windows and that the blinds have looped cords.

You ask the mom when was the last time the young children were tested for lead. Mom notes that it was within the last year and the results were less than 10.

You sit down again with the mom to review home safety questions. You provide her with a poison control hotline sticker to place on the phone. You ask about fire safety issues. She notes that there is no smoking allowed in the house and matches are stored in a high, safety-locked cabinet. The family does not have a formal fire escape plan.

The mom reports that the hallway lighting is good. She has no safety concerns about lighting. In the kitchen you note the coffee maker and tea kettle. You ask about the child's access to hot liquids. The mom notes that her son is older and is aware that he should not touch hot things. You ask the mom if she knows what the hot water temperature is set at. She does not know.

#### **Bedroom** and **Bathroom**

- View "Bedroom and Bathroom Walkthrough" video clip (6.6 MB).
- View photos of bedroom conditions.
- View photos of bathroom conditions.

You ask the mom about the use of humidifiers in the bedroom. She notes that she sometimes uses them in the winter because the air gets too dry from the hard to control heat.

As you talk further, the mom confirms that the bathroom fan does function although it is a bit noisy. You observe a hair dryer on the edge of the sink. You ask the mom about adult supervision when her child is bathing. She notes that she is right there most of the time but may sometimes leave the room to grab a towel or item of clothing for the child.

#### Medication Review and Wrap-up

• View "Medication Review and Wrap-up" video clip (7.0 MB).

# **Healthy Homes Maintenance Checklist**

The following checklist was developed for the Healthy Homes Training Center and Network as a tool for healthy home maintenance. A healthy home is one that is constructed, maintained, and rehabilitated in a manner that is conducive to good occupant health.

To maintain a healthy home, occupants should keep it dry, clean, well-ventilated, free from contaminants, pest-free, safe and well-maintained. Good home maintenance can act to

reduce allergens, prevent illness, and reduce injury from accidents. This checklist provides basic guidelines; items may need to be checked more often depending on local conditions and manufacturer suggestions.

Developed for the National Healthy Homes Training Center by Terry Brennan and Ellen Tohn, technical advisors to the National Center for Healthy Housing.

	Sprii	\$0    Te	Annas	As No.	\$ 240 240
Yard and Exterior					
Water drains away from house	0				
No trip, fall, choking, sharp edge hazards	•	•			
Fence around pool intact	0	0			
Check for signs of rodents, bats, roaches, termites	•	•			
Drain outdoor faucets and hoses		•			
Clean window wells and check drainage	•	•			
Clean gutters and downspouts	0	0			

	نون دور		<b>¥</b> zan	4. S.	QQ <sup>T</sup>
Basement and Crawlspa	ce				
No wet surfaces, puddles	0	0			
Sump pump and check valve working	0	0			
Floor drain working	0				
Vacuum basement surfaces	0				
Check for signs of rodents, bats, roaches, termites		•			

	in a	e Hall	Paring Paring	s Need	\$ 20°
Exterior Roof, Walls, Wir	٠,		Ţ.	4	E,
Shingles in good condition	0				
Check chimney, valley, plumbing vent, skylight flashing	•				
Make sure gutters discharge water away from building	•				
Check attic vents		0			
Check attic for signs of roof leaks	•				
Check for icicles and ice dams					
Look for peeling paint	0				
Look for signs of leaks where deck attaches to house	•				
Check below window & door that flashing intact	•				
Repair broken, cracked glass		0			
Look for signs of leaks at window and door sills	•				
Clean dryer vent	0	0			
Check exhaust ducts are clear	0	0			

HVAC Equipment - Repla	چنون ace F	ilter	S	45 No.	Popology of
Warm air furnace (merv 8)		0			
Air conditioner (central air merv 8)	•				
Dehumidifier	0				
Outdoor air to return to heat recovery ventilation		•			

	Spring	[Fall	Anna	\$ \$ \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Poo de
Plumbing, Fixtures, and	App	olian	ces		
Check washer hoses- connections			0		
Check dishwasher hoses for leaks			0		
Check toilet supply/shut-off valve			0		
Clean & check refrigerator drip pan-icemaker connections			•		
Check shower-tub surrounds for signs of damage			•		
Check traps and drains under sinks, tubs, showers for leaks			•		
Check hot water heater for leaks		0			
Check boiler for leaks		0			
Check water main/meter or well pump for leaks or sweating		•			

Electrical Equipment	Soring Soring	lle <sub>d</sub>	<b>Agi</b>	4s No.	Pro Neededs
Check for damaged cords	0	0			
Test ground fault interrupters	0				
Test outlets for proper hot, neutral, and ground					
Check smoke and CO alarms	0	0			

Clean septic tank

Check drain and supply time for leaks

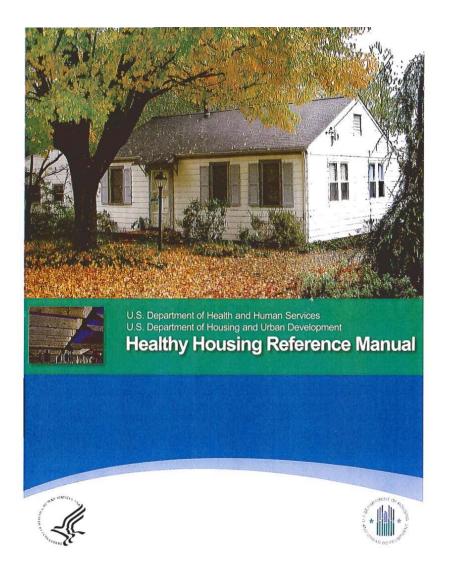
Check bath and kitchen fans operation

	Soft integer	Mey	Anna	As No.	Pan de
Attic	1	,	1		
Check for signs of rodents, bats, roaches, termites		0			
Check for water damage		0			
Ensure insulation in place		0			
Check that fans still exhaust to outdoors (check ductwork connections)			•		

Interior Walls, Ceilings, V	نَّقِيْ عَمْ Winc	 , Do	4	Pro Need
Check for signs of water damage		0		
Check operation of windows and doors	0			
Lubricate and repair windows and doors			0	

	بنتيد		<b>₽</b> ZZŽŽ	15 No.	550
Appliances					
Clean kitchen range hood screens				0	
Clean dryer vents and screens	0				
Clean exhaust fan outlets and screens	0				
Clean outdoor air intakes and screens		0			
Clean air conditioning coils, drain pans	0				0
Clean dehumidifier coils, check operation	0				
Clean and tune furnaces, boilers, hot water heaters		•			•
Clean and tune ovens and ranges		0			0

Garage	چ <u>ئ</u> تۇر س	, May	Jenna	18 Nee.	220
Ensure storage of fuel cans	0	0			
Proper operation of garage door safety shut-off	•	•			
Check for signs of water damage	0				
Check for signs of rodents, bats, roaches, termites	•	•			



# Chapter 1 —Housing History and Purpose

Introduction
Preurban Housing
Ephemeral Dwellings
Episodic Dwellings
Periodic Dwellings
Seasonal Dwellings
Semipermanent Dwellings
Permanent Dwellings
Urbanization
Trends in Housing
References
Additional Sources of Information

# Chapter 2 —Basic Principles of Healthy Housing

Introduction
Fundamental Physiologic Needs
Fundamental Psychologic Needs
Protection Against Disease
Protection Against Injury
Protection Against Fire
Fire Extinguishers
Protection Against Toxic Gases
References
Additional Sources of Information

# **Chapter 3 — Housing Regulations**

Introduction History Zoning, Housing Codes, and Building Codes Zoning and Zoning Ordinances
Exceptions to the Zoning Code
Housing Codes
Building Codes
References
Additional Sources of Information

# Chapter 4 — Disease Vectors and Pests

Disease Vectors and Pests Rodents Cockroaches Fleas Flies Termites Fire Ants

Introduction

Mosquitoes References

Chapter 5 —Indoor Air Pollutants and Toxic Materials

Introduction
Indoor Air Pollution
Biologic Pollutants
Chemical Pollutants
Toxic Materials

Asbestos Lead Arsenic References

**Chapter 6 — Housing Structure** 

Introduction

New Housing Terminology Old Housing Terminology

Foundation Vapor Barriers Crawl Space Barriers

Vapor Barriers for Concrete Slab

Homes

Wall and Ceiling Vapors

House Framing Foundation Sills Flooring Systems

Studs

Interior Walls Stairways Windows Doors

**Roof Framing** 

Rafters Collar Beam Purlin Ridge Board

Hip

Roof Sheathing

Dormer Roofs

Asphalt Shingle

**EPDM** 

Asphalt Builtup Roofs Coal Tar Pitch Builtup Roofs

Slate Roofs Tile Roofs Copper Roofs

Galvanized Iron Roofs Wood Shingle Roofs Roof Flashing Gutters and Leaders Exterior Walls and Trim

Putting It All Together

References

Additional Sources of Information

Chapter 7 —Environmental

Barriers
Introduction
Roof
Insulation
Siding
Fiber Cement

Brick Stucco Vinyl Asbestos Metal References

Chapter 8 —Rural Water Supplies and Waterquality

**Issues** 

Introduction Water Sources Source Location Well Construction

Sanitary Design and Construction

Pump Selection
Dug and Drilled Wells

Springs Cisterns

Disinfection of Water Supplies Chlorine Carrier Solutions Routine Water Chlorination

(Simple)

Well Water Shock Chlorination Backflow, Backsiphonage, and Other Water Quality Problems

Backflow Backsiphonage

Other Water Quality Problems Protecting the Groundwater

Supply References

Additional Sources of Information

Chapter 9 —Plumbing

Introduction

Elements of a Plumbing System

Water Service

Hot and Cold Water Main Lines

Water Heaters
Drainage System
Corrosion Control
Water Conservation
Putting It All Together

References

Additional Sources of Information

Chapter 10 —Onsite Wastewater Treatment

Introduction

Treatment of Human Waste Onsite Wastewater Treatment

Systems

Septic Tank Systems

Alternative Septic Tank Systems

Maintaining the Onsite

Wastewater Treatment Systems Symptoms of Septic System

Problems

Septic Tank Inspection

References

Additional Sources of Information

# Endnotes Essentials for Healthy Homes Practitioners Course

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# **MAKING IT WORK**

No references

# Healthy Homes: Assessment and Interventions



Student Manual
October 2017



# Healthy Homes: Assessment and Interventions



# **Agenda**

Day 1				
Agenda Item	Type of Activity	Time		
	Getting Started			
What Are We Doing Here?	Instructions and course overview	9:00 - 9:30		
What Do We Already Know?	Review exercise: Connections or Jeopardy	9:30 - 10:00		
Module 1: C	Module 1: Conduct a Resident Interview			
The Whys and Wherefores of Resident Interviews	Trainer presentation/group discussion	10:00 - 10:30		
Inspection Checklists	Trainer presentation/group discussion	10:30 - 10:45		
Break		10:45 - 11:00		
Assess Assessment Tools	Small group activity	11:00 - 11:30		
Virtual Resident Interview	Small group activity	11:30 - 12:00		
Lunch		12:00 - 1:00		
Virtual Resident Interview (continued)	Whole group activity	1:00 - 1:45		
Review	Large group activity	1:45 - 2:00		
Preparing for Success	Large group activity	2:00 - 2:30		
Break		2:30 - 2:45		
Module 2: C	Conduct a Home Assessment			
The Home Assessment Process	Trainer presentation/group discussion	2:45 - 3:00		
Identify the Keep-its	Small group activity	3:00 - 3:15		
Identifying Hazards	Individual and large group activity	3:15 - 4:30		
Onsite Visit Prep	Group discussion	4:30 - 4:45		
Day 1 Wrap-Up		4:45 - 5:00		



# Healthy Homes: Assessment and Interventions



# **Agenda**

	Day 2	
Agenda Item	Type of Activity	Time
	Getting Started	
Questions from Day 1	Small group discussion	9:00 - 9:20
Review Agenda for the Day	Trainer presentation	9:20 - 9:30
Module 2: Co	onduct a Home Assessment (continued)	
Onsite Inspection Instructions	Trainer presentation	9:30 - 9:45
Onsite Inspection	Trainer presentation	9:45 - 11:15
Break		11:15 - 11:30
Onsite Visit Debriefing	Small group activity	11:30 - 12:00
Lunch		12:00 - 1:00
Onsite Visit Debriefing (continued)	Small group activity	1:00 - 1:30
Мо	dule 3: Develop an Action Plan	
Prioritizing Hazards	Trainer presentation; small group activity	1:30 - 2:00
Whose Job is It?	Trainer presentation; small group activity	2:00 - 2:45
Break		2:45 - 3:00
You've Got Resources	Trainer presentation/large group discussion	3:00 - 3:40
Creating an Action Plan	Small group activity	3:40 - 4:30
Review	Large group discussion	4:30 - 4:45
Day 2 Wrap-Up		4:45 - 5:00



# Healthy Homes: Assessment and Interventions



# **Agenda**

Day 3				
Agenda Item	Type of Activity Tir			
	Getting Started			
Questions from Day 1	Small group discussion	9:00 - 9:20		
Review Agenda for the Day	Trainer presentation	9:20 - 9:30		
Module	4: Implement Interventions			
Effective Remediation	Trainer presentation and individual activity	9:30 - 9:45		
Cost Estimates	Trainer presentation	9:45 - 10:00		
Bids and Contracts	Trainer presentation	10:00 - 10:20		
Break		10:20 - 10:35		
Quality Control	Trainer presentation	10:35 - 10:45		
Reporting	Trainer presentation	10:45 - 11:00		
Mod	ule 5: Educating Residents			
Keep It Audience Appropriate	Trainer presentation; small group activity	11:00 - 11:15		
The Healthy Housing Kit	Trainer demonstration	11:15 - 11:30		
Grow your Program	Revisit the "Dream" exercise—part with large group	11:30 - 12:15		
Course Wrap-Up - final questions		12:15 - 12:30		







The National Healthy Homes Training Center and Network (Training Center) offers cutting edge training and professional development in the field of healthy housing. The Training Center has trained almost 28,000 people since its inception in 2003, and is creating a workforce that understands how to find and resolve hazards in the home environment. Visit the website at *healthyhousingsolutions.com/hhtc/*.

# **The Training Center:**

- **Brings together public health and housing practitioners** to promote practical and cost-effective methods for making homes healthier.
- Serves as a forum for exchanging information on new research and best practices.
- **Promotes cross-training** of public health and housing practitioners.
- Identifies and optimizes opportunities for networking, collaboration, and partnerships.
- Provides continuing education units (CEUs) for most courses.

# Training with a higher purpose

Our trainees are dedicated professionals committed to making a difference in their communities through safe and healthy housing. In 2009, the U.S. Surgeon General's *Call to Action to Promote Healthy Homes* underscored the public health importance of healthy housing and endorsed the "seven principles of healthy housing," which serve as the cornerstone of the Training Center's curricula.

Trainees learn critical skills and increase their knowledge of the principles, while also becoming inspired to serve as resources, thought leaders, conveners, and advocates in their communities.

The Training Center operates across the country and provides training through a network of experienced partners. To see a list of partners and their contact information, go to <a href="https://healthyhousingsolutions.com/hhtc/training-partners/">healthyhousingsolutions.com/hhtc/training-partners/</a>.

The Training Center offers three types of courses to meet the needs of all students: (1) face-to-face, (2) online selfpaced, and (3) online instructor-led.

# **Essentials for Healthy Homes Practitioners**

This is the Training Center's flagship course. Over 14,000 students have taken the course, and nearly 97% of participants say they would recommend it to a colleague. Eighty-five percent say they could immediately incorporate the concepts they learned into their daily work.

This is what a few of our trainees have said about the Essentials course:

"The breadth of the course and practical application to in-home assessments (how to clean up mold, green cleaning supplies) was terrific. Plus the instructor's range of knowledge and experience was a great added value to the training materials."

"Information presented in practical, real world examples by presenter with solid experience with weatherization and healthy homes practices."

"The training was comprehensive and could relate to all types of homes."





#### **Classroom courses:**

**Code Inspection for Healthier Homes** – This is a one-day course for code inspectors and others interested in learning more about how effective housing enforcement and programs can improve the health of occupants. The course provides information on the health-related provisions of state and local housing codes and the International Property Maintenance Code (IPMC).

**Eco-Healthy Child Care Course®** – The five-hour Eco-Healthy Child Care® Train-the-Trainer curriculum offers information on 11 core content areas: pesticides, poor indoor air quality, household chemicals, lead, mercury, furniture and carpets, art supplies, plastics, arsenic, radon and recycling. The course prepares individuals to become a resource for their localized communities.

**Essentials for Healthy Homes Practitioners** – If you visit homes to provide health or inspection services of any type, you will benefit from this course. The training will help you understand the connection between health and housing and how to take a holistic approach to identify and resolve problems that threaten the health and well-being of residents.

**Green and Healthy Management Strategies for Multifamily Properties** – This course provides property owners/managers with tools to implement green and healthy practices that can reduce energy, water, contaminants, and improve resident health conditions.

Healthy Home Evaluator Study Course – This course is designed to prepare students for the Healthy Home Evaluator certification offered through the Building Performance Institute (BPI). Students identify and evaluate health related hazards in a client's home. Students learn how to apply good practices to work with residents, identify housing-related health hazards, use tools to measure hazardous conditions, prioritize hazards, and identify and communicate solutions to residents. The course includes a site visit to a home and a number of case studies. Students will also learn how to protect themselves as they conduct home visits.

**Healthy Homes Assessment and Interventions** – This course enables students to learn about the importance of the resident interview, develop strategies for assessing the health-related hazards in a home, conduct an on-site inspection, and develop a comprehensive action plan.

**Healthy Homes Assessment for Community Health Workers** – This course enables is designed specifically for community health workers (CHWs), and other home visitors who provide health education to residents. The course provides these individuals with the knowledge and skills needed to perform a basic healthy home assessment.

**Healthy Homes Assessment: Principles and Practice** – This course provides knowledge and skills that individuals need to perform healthy home assessments. It is intended for those professionals who have completed either the Essentials for Healthy Homes Practitioners or the Healthy Homes Essentials for Environmental Professionals course and who plan to perform home assessments as part of their professional activities.





**Healthy Homes for Community Health Workers** – This course teaches Community Health Workers (CHWs) how to provide healthy homes information to members of their communities. The course trains CHWs to provide one-on-one and large group education on healthy homes, provide general advice about specific healthy homes problems, and to recommend healthy homes approaches to be taken by families, landlords, and other community members.

**Healthy Homes Essentials for Environmental Professionals** – This course is an accelerated version of the Essentials for Healthy Homes Practitioners course for those individuals who already have certification as a professional in a healthy home field of expertise.

**Health Opportunities in Energy Audits and Upgrades** – This course provides an opportunity for energy auditors to learn about healthy homes and understand that energy efficiency is only one part of a safe and healthy home. Students become aware of a wider array of housing problems they will encounter and may be able to address once they are working in a home.

**Integrated Pest Management in Multifamily Housing** – This course is designed to help property managers implement a comprehensive integrated pest management (IPM) program by bringing stakeholders, especially resident leaders, together to develop the skills and practices needed to effectively eliminate pests such as cockroaches and rodents from multifamily housing. This course is available both in the classroom and online.

**Launching a Healthy Homes Initiative** – This course brings together health and housing professionals from state and local agencies as well as other health and housing organizations. The goal is to identify policies and practices to establish robust programs to make homes healthier. The course provides elements of a strategic planning process to initiate a healthy homes program in your community.

#### **Online Self-Paced Courses:**

**Basic Principles of Healthy Housing** – This course is engaging and interactive. Whether you're a community health worker, home assessor, home inspector, program manager, or anyone concerned about healthy housing, you will learn about the well-documented link between health and housing and become familiar with the eight principles of keeping your home healthy.

**Eco-Healthy Child Care** – This interactive course is designed for early care and learning professionals and those who offer technical assistance and/or training to child care providers. Parents will find it useful for the home environment as well. Learn why children are uniquely vulnerable to common environmental health hazards (e.g., lead, pesticides, household chemicals, unsafe plastics), and receive practical and low-cost to no-cost strategies for preventing children's exposures to toxic substances.

**Integrated Pest Management in Multifamily Housing** – This course is designed to help a property manager, including a public housing authority, to implement a comprehensive integrated pest management (IPM) program by bringing stakeholders, especially resident leaders, together to develop the skills and practices needed to effectively eliminate pests such as cockroaches and rodents from multifamily housing. This course is available both in the classroom and online.





**Pediatric Environmental Home Assessment** – This course is designed to prepare nurses to recognize potential environmental hazards as part of a primary prevention approach, and recommend preventative action or make appropriate referrals for conditions that may be caused by a housing-related hazard.

#### Online instructor-led courses:

**Bed Bug Management for Affordable Housing Providers** – During this four-hour webinar, you will learn how to take an active role in solving common challenges, identifying problems, learning what strategies work to kill bed bugs, and how to find a good pest management professional.

**Making Homes Healthier for Residents Who Hoard** – This one-hour webinar discusses how hoarding impacts healthy homes. Participants learn about using a tool that helps a healthy home practitioner measure the level at which the resident's hoarding could have an impact on his or her health. They also learn about what does and does not work in addressing health-related hazards in a hoarder's house.

Making Homes Healthier for Residents With Limited Finances – This one-hour webinar will help participants identify alternative sources of funding for healthy home fixes. Instead of focusing solely on what their programs can pay for, participants will learn how to take a broader view on finding potential funds. Participants will also learn about the importance of starting locally when looking for resources, including programs that address housing repairs. Additionally, the webinar will provide a brief overview of federal and state programs.

To locate Training Center classes that are currently being offered, visit our Schedule of Classes at <a href="http://healthyhousingsolutions.com/register">http://healthyhousingsolutions.com/register</a>.

If you have any questions about the Training Center, contact Laura Titus at Ititus@healthyhousingsolutions.com.

# Continuing Education Attendance Form

National Environmental Health Association

# ALL STEPS MUST BE COMPLETED

FOR NEHA USE ONLY	
Name of Program: Healthy Homes Assessment and Interventions 2	2019
Location: Various Dates: Various	
Total Number of NEHA Authorized CE Contact Hours: 15.75	
STEP 1. Name and Address of Applicant	
Name:	Date Completed Training
Address:	
City: State:	
Daytime Phone: Email:	
NEHA Membership Number (if applicable):	
NEHA Credential ID Number (if applicable):	
STEP 2. Competencies Please list the new competencies you have developed.	Step 3. Total CE Hours Number of Hours attended:
. →	(-) Breaks/Lunches:
⇒	(-) Dinners:
   ⇒	(-) Business Meetings
⇒	Total CE Hours: =
Ston 4 Attendence Verification (Democratative from Due Aug	
Step 4. Attendance Verification (Representative from Pre-App	
ATTENDANCE VERIFICATION SIGNATURE:	
Step 5. CE Fees	
☐ I am credentialed with NEHA, there is no charge (please see other side of ☐ I am not currently credentialed with NEHA, there is a \$7.50 charge per C submission instructions)	
Method of Payment (if applicable):  ☐ Check or Money Order payable to NEHA	
☐ Visa or Mastercard Card Number:	CVV Code: Exp. Date:
Authorized Signature:	

#### **Step 6. Submission Instructions**

#### 1. If you are credentialed with NEHA:

- ✓ Log into your My NEHA account using your email address as your login ID.
- ✓ On the right side of the screen, look for "My Credentials and CEs". Then click on "Report CE Credits".
- ✓ Complete the Self-Report CE Credits form.
- ✓ Retain this form for your records. In the event you are audited this form will serve as your proof of attendance.

#### 2. If you are currently not credentialed with NEHA:

 $\checkmark$  Please submit this completed form along with the appropriate fee (\$7.50 per submission) to:

National Environmental Health Association

Attn: Continuing Education

720 S. Colorado Blvd., Ste. 1000-N

Denver, CO 80246

Phone: (303) 756-9090 ext. 310

Fax: (303) 691-9490

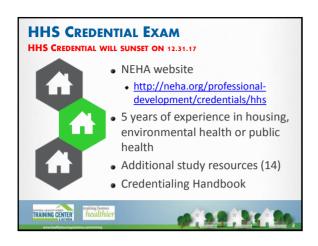
Email: credentialing@neha.org











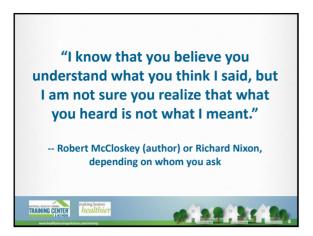
# DO YOU HAVE WHAT IT TAKES TO BE A HEALTHY HOMES SPECIALIST? • Client outreach, identification and intake • Interface with household • Physical environment assessment • Provide recommendations based on assessment • Implement interventions • Evaluate success of interventions

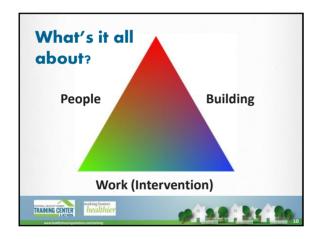












Interviewing t	he Resident:
<ul> <li>Resident Interview</li> <li>Occupant Interview</li> <li>Resident Environmental Tool</li> <li>Environmental Assessment</li> <li>Environmental History</li> <li>Others?</li> </ul>	PEOPLE
TRAINING CENTER healthier	0 1 2 9 1 2 5 1 2 9 n.

# **Assessing the Building:** Building Inspection Building Assessment Inspection Tools Environmental Testing • Environmental Review Others? **BUILDINGS** TRAINING CENTER healthier

# **Defining the Work:**

- Scope of Work
- Statement of Work
- Work Write-up
- Specifications
- Others?



**WORK** 





# **Building Science Basics**

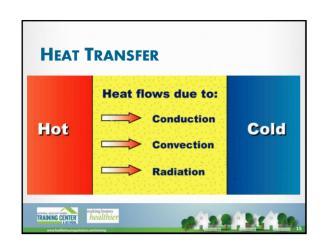


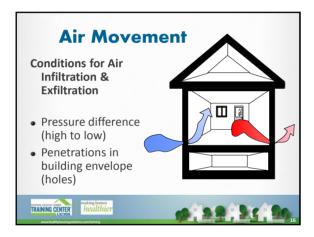
- Heat moves toward cold
- Air moves from High pressure to Low (if there is a pressure difference and a pathway)
- Moisture moves from areas of higher moisture to areas of lower moisture











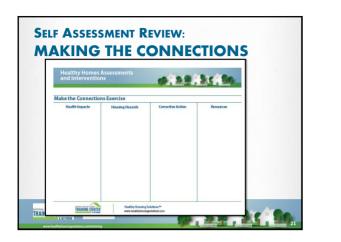


#### **Moisture In Buildings: Two Forms** Vapor Liquid Bulk Diffusion Liquid water (rain, Molecules of water drainage, plumbing moving through porous leaks) materials Capillary Infiltration Wicking through porous Moisture-laden air materials (concrete, brought into or out of fiberglass and cellulose the house insulation, wood)

TRAINING CENTER

# Find the Self-Assessment Form in the back of the Introduction section of your binder. List as many of the 8 Principles as you can. List at least 5 home hazards and their related health impacts. What are 2 conditions needed for air movement? In a mixed humid climate during summer, in which direction will heat flow?





# Heathy Homes: Assessment and Interventions Exercise 1: Introductions

# Part 1: What's Your Program?

Working as individuals (or with a partner from your agency), complete this worksheet. Be ready to share your responses with the group.

What's your current Healthy Homes program? What is your program mission?
What population/occupants do you serve?
How was this population chosen?
What are your sources of funding?
What are your sources of labor?

# Part 2: We Have a Dream

If resources were available, how would you expand and define your ideal Healthy Homes program? Use this worksheet to capture your initial ideas. We'll revisit this later in the course.

Describe your dream Healthy Homes program. What is your dream mission?
What specific work would you accomplish?
Who would you serve?
What funding sources would you use?
What sources of labor would you use?

### Heathy Homes Assessment and Interventions Self-Assessment

### How many of the 8 Principles of Healthy Homes can you list? 1. Keep It \_\_\_\_\_ 2. Keep It \_\_\_\_\_\_ 3. Keep It \_\_\_\_\_ 4. Keep It \_\_\_\_\_ 5. Keep It \_\_\_\_\_ 6. Keep It \_\_\_\_\_ 7. Keep It \_\_\_\_\_ 8. Keep It \_\_\_\_\_\_ List at least five hazards commonly found in a home and the potential health impact(s) associated with each **HAZARD HEALTH IMPACT** Name the 2 conditions needed for air movement

#### **Choose one:**

In a mixed humid climate during summer, in which direction will heat flow?

1. Inside to outside

**MODULE: Introduction** 

- 2. Outside to inside
- 3. There will be no heat flow

# Healthy Homes Assessments and Interventions



#### **Make the Connections Exercise**

Health Impacts	Housing Hazards	Corrective Action	Resources
	I .		



#### **MODULE 1: Conduct a Resident Interview**

List at least five issues that should be discussed during the resident interview

1.	
2.	
10.	
dentif approp	y three key decisions that need to be made once it is determined that a home assessment is priate
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dentifapprop 1. 2. 3. dentif	y three key decisions that need to be made once it is determined that a home assessment is oriate  y at least two "social service" needs that may be discovered during an interview
1. 2. 3. dentif 1. 2.	y three key decisions that need to be made once it is determined that a home assessment is priate  y at least two "social service" needs that may be discovered during an interview
1. 2. 3. dentif 1. 2.	y three key decisions that need to be made once it is determined that a home assessment is priate  y at least two "social service" needs that may be discovered during an interview

#### **MODULE 2: Conduct a Home Assessment**

Briefly exp	plain the difference between a deficiency-based and solutions-based assessment checklist
Name the	2 key characteristics of an assessment checklist
2	
List the fo	ur steps to approaching a home assessment
1	
2	
	three most problematic pests
1	
2	
3	
Nama tha	three machanical systems that are kny to kooning it slimate controlled
	three mechanical systems that are key to keeping it climate-controlled
1	
2	
3	

#### **MODULE 3: Develop an Action Plan**

Name a	at least two types of specialized input you may request before finalizing a scope of work
1.	
	four ways program design can affect prioritization
1.	
2.	
3.	
Name a	at least one potential program partner
1.	
2.	
3.	
Name t	three potential program funding sources
1.	
_	

#### **MODULE 4: Implement Interventions**

Name	five steps in the bid process
1.	
2.	
	four reasons to complete an in-house cost estimate
4.	
	e suggested requirements for accepting contractor bids
2.	
3.	· <del></del>
4.	
5.	
	·
Name	five sources of Program Evaluation Data
1.	five sources of Program Evaluation Data
1. 2.	five sources of Program Evaluation Data
<ol> <li>2.</li> <li>3.</li> </ol>	five sources of Program Evaluation Data
<ol> <li>2.</li> <li>3.</li> </ol>	five sources of Program Evaluation Data

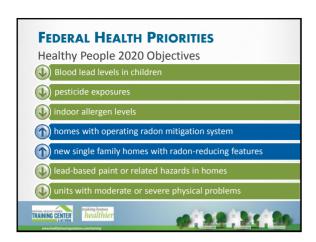
#### **MODULE 5: EDUCATE RESIDENTS**

Name the	most important factors in inspiring trust and credibility
1	
2	
Name the	final step in the assessment process, before closing out a client
1.	

# MODULE 1: RESIDENT INTERVIEW Healthy Housing Solutions \*\*C.\*\*

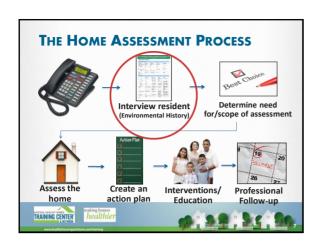


# SELF ASSESSMENT Module 1 - Resident Interview List at least 5 issues that should be discussed during the resident interview. Identify 3 key decisions that need to be made once it is determined that a home assessment is appropriate. Identify 2 "social service" needs that may be discovered during a resident interview.













#### **SMALL GROUP EXERCISE (3):** EVALUATE INTERVIEW & ASSESSMENT



- Working in small groups, familiarize yourself with the 3 interview & assessment forms in your manual. PEHA, HEAL, CMH
- Briefly identify the pros and cons of each.
- Discuss and decide on the most appropriate interview tool for your purposes.
- Be prepared to explain your decision.







#### **SMALL GROUP EXERCISE (4):** VIRTUAL RESIDENT INTERVIEW



- Working in small groups, critique the resident interview, looking for strengths as well as things that could be done differently.
- Information will be provided via video, slides and narratives from the instructor. Remember to take notes as needed.
- Use the PEHA form (from the previous exercise) to document identified observations or concerns.







#### **RESIDENT INTERVIEW: INTRODUCTIONS**

Launch Introductions video





























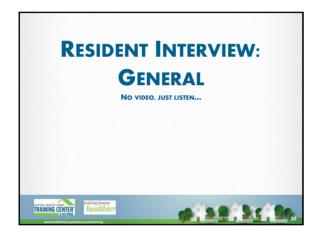






















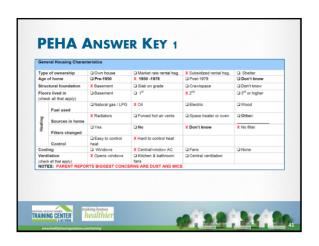


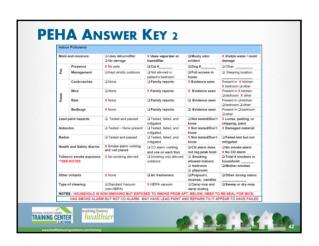


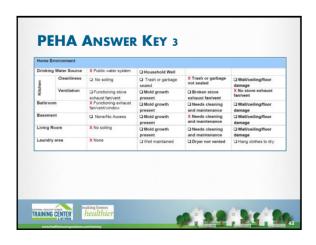


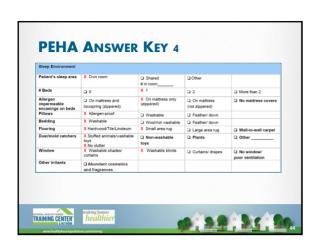


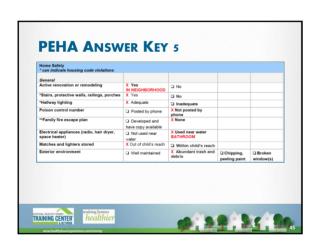


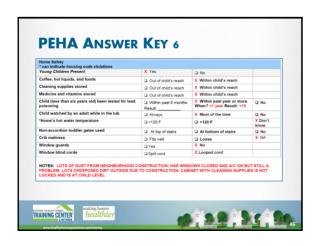












# THINK BEYOND THE FORMS... Resident habits Resident concerns Social service needs Environmental concerns

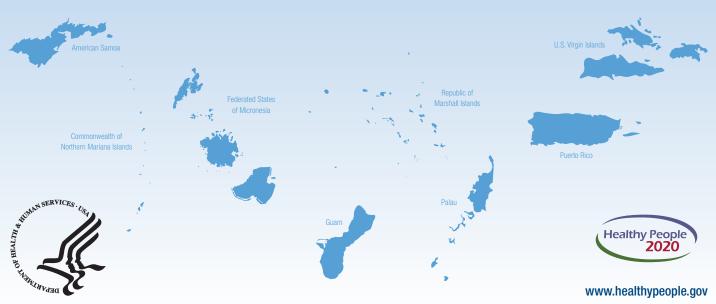
#### WHERE DO WE GO FROM HERE? DETERMINE LEVEL OF ASSESSMENT

- Basic- Visual assessment, healthy home education
- Intermediate Visual assessment, healthy home education, environmental measurements
- Comprehensive Visual assessment, healthy home education, basic and/or advanced environmental measurements. Sampling and lab analysis may be included.



# Healthy People 2020





#### Healthy **People** in Healthy **Communities**

#### What Is Healthy People?

Healthy People is a set of goals and objectives with 10-year targets designed to guide national health promotion and disease prevention efforts to improve the health of all people in the United States.

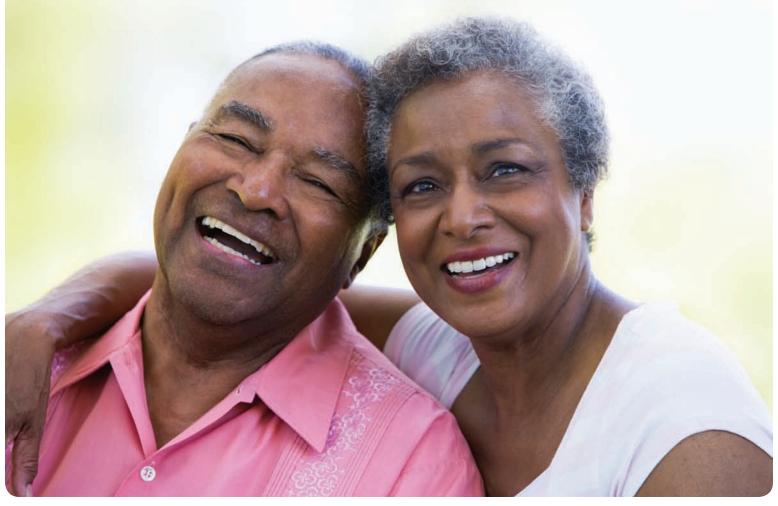
Released by the U.S. Department of Health and Human Services each decade, *Healthy People* reflects the idea that setting objectives and providing science-based benchmarks to track and monitor progress can motivate and focus action. *Healthy People 2020* represents the fourth generation of this initiative, building on a foundation of three decades of work.

Healthy People is used as a tool for strategic management by the federal government, states, communities, and many other public- and private-sector partners. Its comprehensive set of objectives and targets is used to measure progress for health issues in specific populations, and serves as (1) a foundation for prevention and wellness activities across various sectors and within the federal government, and (2) a model for measurement at the state and local levels.

#### What's New in Healthy People 2020?

Healthy People 2020 is committed to the vision of a society in which all people live long, healthy lives. This decade, several new features will help make this vision a reality:

- Emphasizing ideas of health equity that address social determinants of health and promote health across all stages of life
- Replacing the traditional print publication with an interactive Web site as the main vehicle for dissemination
- Maintaining a Web site that allows users to tailor information to their needs and explore evidencebased resources for implementation



#### The Mission, Vision, and Goals of Healthy People 2020

Vision — A society in which all people live long, healthy lives.

**Mission** — Healthy People 2020 strives to:

- Identify nationwide health improvement priorities
- Increase public awareness and understanding of the determinants of health, disease, and disability, and the opportunities for progress
- · Provide measurable objectives and goals that are applicable at the national, state, and local levels
- Engage multiple sectors to take actions to strengthen policies and improve practices that are driven by the best available evidence and knowledge
- Identify critical research, evaluation, and data collection needs

#### Overarching Goals

- Attain high quality, longer lives free of preventable disease, disability, injury, and premature death
- Achieve health equity, eliminate disparities, and improve the health of all groups
- Create social and physical environments that promote good health for all
- Promote quality of life, healthy development, and healthy behaviors across all life stages

## Foundation **Health Measures**

Healthy People 2020 includes broad, cross-cutting measures without targets that will be used to assess progress toward achieving the four overarching goals.

Overarching Goals of Healthy People 2020	Foundation Measures Category	Measures of Progress
Attain high quality, longer lives free of preventable disease, disability, injury, and premature death	General Health Status	<ul> <li>Life expectancy</li> <li>Healthy life expectancy</li> <li>Physical and mental unhealthy days</li> <li>Self-assessed health status</li> <li>Limitation of activity</li> <li>Chronic disease prevalence</li> <li>International comparisons (where available)</li> </ul>
Achieve health equity, eliminate disparities, and improve the health of all groups	Disparities and Inequity	Disparities/inequity to be assessed by:  Race/ethnicity Gender Socioeconomic status Disability status Lesbian, gay, bisexual, and transgender status Geography
Create social and physical environments that promote good health for all	Social Determinants of Health	Determinants can include:      Social and economic factors     Natural and built environments     Policies and programs
Promote quality of life, healthy development, and healthy behaviors across all life stages	Health-Related Quality of Life and Well-Being	<ul> <li>Well-being/satisfaction</li> <li>Physical, mental, and social health-related quality of life</li> <li>Participation in common activities</li> </ul>

#### New to Healthy People 2020: Leading Health Indicators

Healthy People 2020 includes a small set of high-priority health issues that represent significant threats to the public's health. Selected from the Healthy People 2020 objectives, the 26 Leading Health Indicators (LHIs), organized under 12 topic areas, address determinants of health that promote quality of life, healthy behaviors, and healthy development across all life stages. The LHIs provide a way to assess the health of the Nation for key areas, facilitate collaboration across diverse sectors, and motivate action at the national, State, and local levels.

#### **Leading Health Indicators**

12 Topic Areas	26 Leading Health Indicators
Access to Health	Persons with medical insurance
Services	Persons with a usual primary care provider
Clinical Preventive	Adults who receive a colorectal cancer screening based on the most recent
Services	guidelines
	<ul> <li>Adults with hypertension whose blood pressure is under control</li> </ul>
	Adult diabetic population with an A1c value greater than 9 percent
	Children aged 19 to 35 months who receive the recommended doses of  dighth arise testance and participle (DT-D) in alice recommended.
	diphtheria, tetanus, and pertussis (DTaP); polio; measles, mumps, and rubella (MMR); Haemophilus influenza type b (Hib); hepatitis B; varicella; and
	pneumococcal conjugate (PCV) vaccines
	priedmococcai conjugate (i Ov) vaccines
Environmental	Air Quality Index (AQI) exceeding 100
Quality	Children aged 3 to 11 years exposed to secondhand smoke
Injury and Violence	Fatal injuries
	Homicides
Maternal, Infant,	Infant deaths
and Child Health	Preterm births
Mental Health	Suicides
Wortar Floater	<ul> <li>Adolescents who experience major depressive episodes (MDEs)</li> </ul>
N	
Nutrition, Physical	Adults who meet current Federal physical activity guidelines for aerobic physical activity and muscle strangthening activity.
Activity, and Obesity	<ul><li>activity and muscle-strengthening activity</li><li>Adults who are obese</li></ul>
Obesity	Children and adolescents who are considered obese
	Total vegetable intake for persons aged 2 years and older
	Total vogotable intakte for persons aged 2 years and sides
Oral Health	<ul> <li>Persons aged 2 years and older who used the oral health care system in the pas</li> </ul>
	12 months
Reproductive and	Sexually active females aged 15–44 years who received reproductive health
Sexual Health	services in the past 12 months
	<ul> <li>Persons living with HIV who know their serostatus</li> </ul>
Social Determinants	Students who graduate with a regular diploma 4 years after starting ninth grade
Substance Abuse	Adolescents using alcohol or any illicit drugs during the past 30 days
	Adults engaging in binge drinking during the past 30 days
Tobacco	Adults who are current cigarette smokers
1000000	Adolescents who smoked cigarettes in the past 30 days

#### Leading Health Indicators Framework

The Healthy People 2020 LHIs were selected and organized using a health determinants and health outcomes by life stages conceptual framework. This approach is intended to draw attention to "upstream" determinants that affect the public's health and contribute to health disparities from infancy through old age, thereby highlighting strategic opportunities to improve health and quality of life for all Americans. Collectively, the LHIs support Healthy People 2020's overarching goals.

#### • The LHIs, Health Determinants, and Health Disparities

Recognizing that factors related to social and physical environments, multi-sector policies, individual behaviors, health services, and biology and genetics influence the ability of individuals and communities to make progress on these indicators, the LHIs will be examined using a health determinants perspective. Addressing determinants is key to improving health disparities and overall population health.

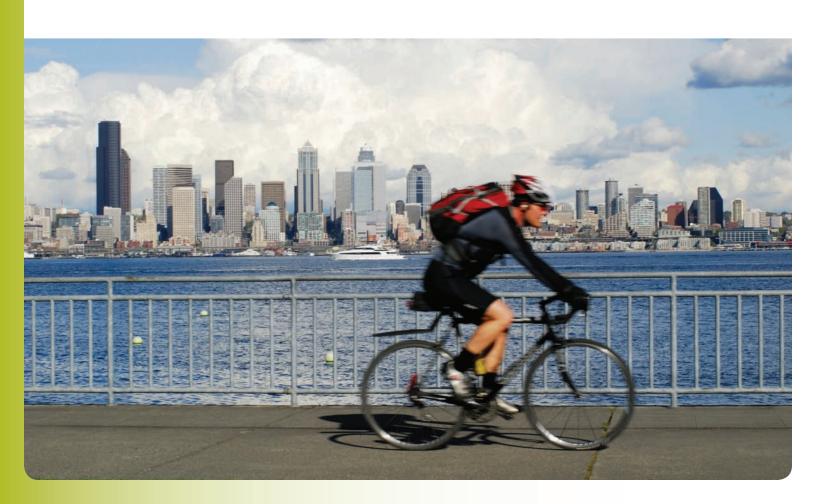
#### The LHIs Across the Life Stages

The LHIs will also be examined using a life stages perspective. This approach recognizes that specific disease outcomes, risk factors, and health determinants need to be addressed at various stages across the lifespan and highlights the importance of tailoring strategies to fit a particular age group.

#### Taking Action To Improve Everyone's Health

The LHIs are intended to motivate action at the national, State, and local levels, as well as among individuals, families, and communities. The indicators can help us best focus our energies—at home and in our communities, worksites, businesses, or States—to live better and longer.

Visit www.healthypeople.gov to learn more about the LHIs and what action is being taken to address them.



#### **Topic Areas**

The Topic Areas of *Healthy People 2020* identify and group objectives of related content, highlighting specific issues and populations. Each Topic Area is assigned to one or more lead agencies within the federal government that is responsible for developing, tracking, monitoring, and periodically reporting on objectives.

- 1. Access to Health Services
- 2. Adolescent Health
- Arthritis, Osteoporosis, and Chronic Back Conditions
- 4. Blood Disorders and Blood Safety
- 5. Cancer
- 6. Chronic Kidney Disease
- 7. Dementias, Including Alzheimer's Disease
- 8. Diabetes
- 9. Disability and Health
- 10. Early and Middle Childhood
- 11. Educational and Community-Based Programs
- 12. Environmental Health
- 13. Family Planning
- 14. Food Safety
- 15. Genomics
- 16. Global Health
- 17. Healthcare-Associated Infections
- 18. Health Communication and Health Information Technology
- 19. Health-Related Quality of Life and Well-Being
- 20. Hearing and Other Sensory or Communication Disorders

- 21. Heart Disease and Stroke
- 22. HIV
- 23. Immunization and Infectious Diseases
- 24. Injury and Violence Prevention
- 25. Lesbian, Gay, Bisexual, and Transgender Health
- 26. Maternal, Infant, and Child Health
- 27. Medical Product Safety
- 28. Mental Health and Mental Disorders
- 29. Nutrition and Weight Status
- 30. Occupational Safety and Health
- 31. Older Adults
- 32. Oral Health
- 33. Physical Activity
- 34. Preparedness
- 35. Public Health Infrastructure
- 36. Respiratory Diseases
- 37. Sexually Transmitted Diseases
- 38. Sleep Health
- 39. Social Determinants of Health
- 40. Substance Abuse
- 41. Tobacco Use
- 42. Vision



U.S. Department of Health and Human Services
Office of Disease Prevention and Health Promotion
ODPHP Publication No. B0132
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www.healthypeople.gov



#### **Exercise 3: Evaluate Interview & Assessment Tools**

Form Name	Pros	Cons
Pediatric Environmental Home Assessment		
Home Environmental Assessment List (HEAL)		
Children's Mercy Hospital Safe & Healthy Home Environmental Assessment		

#### Pediatric Environmental Home Assessment

DRAFT 5/12/06

#### RESIDENT REPORTED INFORMATION

**Bolded** responses indicate areas of greater concern.

	,							
Gene	eral Housing Charac	teristics						
Type	of Ownership	☐ Own house	□ Ma	arket rate rental hsg.	□s	ubsidized rental hsg.	☐ Shelter	
Age	of Home	☐ Pre-1950	□ 19	50-1978	ПP	ost-1978	☐ Don't know	
Struc	tural Foundation	□ Basement	□ SIa	ab on grade	шc	rawlspace		
	rs Lived In	☐ Basement	□ 1 <sup>st</sup>		□ 2 <sup>r</sup>	nd	☐ 3 <sup>rd</sup> or higher	
	Fuel Used	☐ Natural gas / LPG	□ Oi	I	ΩE	lectric	□Wood	
Heating	Sources in Home	☐ Radiators	□Fo	rced warm air	□s	pace heater or oven	☐ Other:	
	Filters Changed	□Yes	□No	□No		on't know	□ No filters	
	Control	☐ Easy to control heat	□ Ha	ard to control heat				
Cool	ing	☐ Windows	□ Ce	entral/window AC	□Fa	ans	□ None	
	ilation k all that apply)	☐ Open windows	□ Kit	tchen/bathroom fans	□С	entral ventilation	☐ HEPA air filter	
NOT								
Indo	or Pollutants							
Mold	and Moisture	☐ Use dehumidifier☐ No damage		☐ Use vaporizer or humidifier	•	☐ Musty odor evident	☐ Visible water / mol damage	
<b>'</b> 0	Presence	☐ No pets	☐ No pets			□ Dog #	Other:	
Pets	Management	☐ Kept strictly outdo	oors	☐ Not allowed in patient's bedroom		☐ Full access in home	☐ Sleeping location:	
	Cockroaches	□ None		☐ Family reports		☐ Evidence seen	Present in  kitchen	
S	Mice	□ None		☐ Family reports		☐ Evidence seen	Present in 🗆 kitchen	

#### NOTES:

#### NURSE OBSERVED INFORMATION

**Bolded** responses indicate areas of greater concern.

Home En	vironment								
Drinking Water Source ☐ Public water sy			stem	☐ Household We	ell	☐ Shared Well			
Kitchen	Cleanliness	No soiling		☐ Trash or garbaç sealed	ge	☐ Trash or garbage not sealed		⊒ Wall/ceilir damage	ng/floor
Kitc	exhaust fan/vent		ve	e ☐ Mold growth present		☐ Broken stove exhaust fan/vent		☐ No stove exhaust fan/vent	
Bathroom ☐ Functioning exhation fan/vent/window		aust	☐ Mold growth present		☐ Needs cleaning and maintenance		☐ Wall/ceiling/floor damage		
Basemen	t	□ None/No Acces	S	☐ Mold growth present		☐ Needs cleaning and maintenance		☐ Wall/ceiling/floor damage	
Living Ro	om	□ No soiling		☐ Mold growth present		☐ Needs cleaning and maintenance		⊒ Wall/ceilir damage	ng/floor
Laundry a	area	□ None		□ Well maintained	b	☐ Dryer not vented outside	Ç	⊒ Hang cloth	nes to dry
Sleep Env	vironment		'		'				
Patient's	sleep area	☐ Own room		☐ Shared # in room		□ Other			
# Beds		<b>0</b> 0		<b>1</b>		<b>□</b> 2		☐ More th	an 2
Allergen			☐ On mattress only (zippered)		☐ On mattress (not zippered)		☐ No mattress covers		
Pillows   Allergen-proof			☐ Washable		☐ Feather/ down				
Bedding			☐ Wool/not washable		☐ Feather/ down				
Flooring		oleum	☐ Small area ru	g	☐ Large area rug		☐ Wall-to-wall carpet		
Dust/mole	d catchers	☐ Stuffed animals/wattoys	ashable	☐ Non-washab toys	le	□ Plants		□ Other _	
Window		<ul><li>Washable shades, curtains</li></ul>	/	☐ Washable bli	nds	☐ Curtains/ drapes	•	□ No win poor vent	
Other irrit	ants	☐ Abundant cosmetic fragrances	s and						
NOTES:									
Home Sat		g code violations							
General									
Active rer	novation or r	emodeling	☐ Yes	es		No			
. •		ls, railings, porches	☐ Yes		□ No	l No			
*Hallway			☐ Ade	quate	☐ Ina	☐ Inadequate			
Poison control number		☐ Post	ed by phone	□ No	☐ Not posted by phone				
**Family f	ire escape p	lan	Deve	eloped and have vailable	□ No	ne			
space hea	ater)	radio, hair dryer,	□ Not	used near water	□ Us	ed near water			
	and lighters	stored	□ Out c	of child's reach	□ Wi	thin child's reach			
Exterior e	environment		□ Well	maintained	□ Ab debri:	undant trash and s		hipping, ling paint	☐ Broken window(s)

NOTES:

#### **NURSE OBSERVED INFORMATION (continued)**

Home Safety * can indicate housing code violations			
Young Children Present	□ Yes	□ No	
Coffee, hot liquids, and foods	☐ Out of child's reach	☐ Within child's reach	
Cleaning supplies stored	☐ Out of child's reach	☐ Within child's reach	
Medicine and vitamins stored	☐ Out of child's reach	☐ Within child's reach	
Child (less than six years old) been tested for lead poisoning	☐ Within past 6 months  Result:	☐ Within past year or more. When? Result:	□ No
Child watched by an adult while in the tub	☐ Always	☐ Most of the time	□ No
*Home's hot water temperature	□ <120 F	□ >120 F	☐ Don't know
Non-accordion toddler gates used	☐ At top of stairs	☐ At bottom of stairs	□ No
Crib mattress	☐ Fits well	☐ Loose	
Window guards	□Yes	□ No	
Window blind cords	□ Split cord	☐ Looped cord	

#### NOTES:





and developed by



#### **National Center for Healthy Housing**

10227 Wincopin Circle, Suite 200 • Columbia, MD 21044 • Tel. (410) 992-0712 www.centerforhealthyhousing.org

With thanks to

#### $N \cdot E \cdot E \cdot T \cdot F$

We credit its Environmental Management of Pediatric Asthma: Guidelines for Health Care Providers and model Pediatric Environmental History Form



The Center for Healthy Homes and Neighborhoods at Boston University
We credit its model Pediatric Asthma-Allergy Home Assessment form

#### $MASTER \sqcap HOME$

#### **ENVIRONMENTALIST**

#### **Directions for the**

#### Do-it-yourself Home Environmental Assessment List (HEAL)

This do-it-yourself home environmental assessment will help you identify ways to make your home environment healthy. The Assessment is made up of two parts: the Survey and the Action plan. To perform a **HEAL** on your home, follow the directions below.

Set aside a time when the residents of your home can do the assessment together. Then:

#### 1. Complete the Survey (pp 2-6):

- Walk through your home and make observations.
- Read the labels on your household products.
- Answer the Survey questions.

(NOTE: Survey answers are grouped under three categories of concern. While the survey cannot absolutely determine high or low risk, these are what the categories mean:

- "Higher Concern" strongly suggests that action(s) should be taken to lower the home health risk.
- "Medium Concern" suggests a careful look at action(s) that could be helpful to your health.
- "Lower Concern" implies that the need for action is low.)

#### 2. Complete the Action Plan (pp 7-9):

- Go line by line through the Survey (pp 2-6) and wherever an answer falls in the "higher concern" category, not the numbers listed in the column on the right. Then go to the Action Plan (pp 7-9) and check the boxes that have the corresponding numbers.
- Prioritize each checked item on the Action Plan based on:
  - Your willingness to implement it.
  - Its significance to the residents of your household.
  - It s significance to your overall home issues. If many concerns are in one category, for example "Moisture Problems," you may wish to focus your efforts there.
  - The advice of experts (if appropriate). For any actions where major home alterations are involved, it's prudent to consult with professionals before making final decisions.
- Commit to taking three actions within the next six weeks.
  - Chose: (1) At least one that requires behavior change (creating a new habit).
    - (2) At least one that can be finished quickly and with little expense or effort.
- Record these three actions in the space provided at the end of the Action Plan and again on the mail-back form that you should have received with this HEAL. Send the second copy back to the CAFK office. If you have any questions, please call 253 798-2954.

### Clean Air for Kids Partnership 253 798-2954

The Clean Air for Kids Program is a partnership comprised of the American Lung Association of Washington, Master Home Environmentalist Program, Tacoma Public Schools, University of Washington - Seattle and Tacoma, Puyallup Tribal Health Authority, Washington State Department of Health, Mary Bridge Children's Hospital and Mental Health Center and Tacoma-Pierce County Health Department.

#### Level of Concern: The Survey Action Medium Higher Lower Steps **BUILDING** After 1978 1978-1951 before 1951 When was the building constructed? 14 Has there been remodeling or paint removal in the last 14 no yes two years ? Are you or your landlord planning to remodel or no yes 15 repaint within the next 12 months? Has a next door neighbor removed external paint? scraping sanding 14 no What daytime indoor temperature do you maintain 60-68 55-60 below 55 8 over 75 during heating season? 68-75 NEARBY ENVIRONMENT How far is your home from the following: 11 1 mile 4 blocks none - factory, gas station, dry cleaners, auto body shop 14 - airport, railway station, bus station How many blocks is your home from a busy street 4+ 1-4 less than 1 14 or highway? 14 Are there unpaved roads, shoulders, or driveways no yes adjacent to the home? During the heating season, how often do you smell 0-5/yr1-2/ml2+/wk12 smoke from neighboring woodstoves or fireplaces? **DUST AND LEAD CONTROL** Is any paint peeling or flaking inside or outside ? 16 no yes the home? ? yes If yes, is the paint lead-based? no 13,17,20,23, 0-25% 26-75% 76-100% What percentage of the living space is carpeted? 18.20 18,19,20 level loop shag/plush If any rooms are carpeted (Circle all that apply) area rugs 14 How do you control tack-in of dust or dirt? remove doormat/ I don=t shoes hall rug Does every door have a doormat? 14 no none do yes 14 What types of doormats do you have? commercial rubber/ rope plastic powerhead/ What kind of vacuum cleaner do you use? canister none 20 upright

monthly

1-2/yr

rarely

21

How often do you check the belt and/or bag?

The Survey		Level of Concern: Lower Medium		Higher		
	How often do you:		4+/mo	1-3/mo	<1/mo	
	<	vacuum home				ľ
	<	dust				ſ
	<	scrub bathrooms				ľ
	<	shake rugs/doormats				
	<	wash beddings/sheets with hot water				
	<	air out home/open windows				ĺ
	How d	How do you clean area rugs		vacuum surface	vacuum w/ canister	
	If you clothes	If you work with toxics on the job, do you wash work clothes separately?		yes	no	
	How n & war	How many times per day do you wash hands with soap & warm water?		4-5	0-3	
	If anyone in the home has allergies, do you have plastic covers on their pillows and/or mattresses?		yes		no	
	Are bedroom windows open at night when sleeping?		yes	no		
	What is your major heat source?		electric	gas/oil	woodstove	
	If you have a furnace, when was the ductwork last cleaned?		0-1/yr	1-4/yr	4+yrs	
	How o	ften do you change the furnace filters?	once/yr	1-2/yr	2/yr+	
	Does furnace have an outside combustion air supply?		yes-N/A	?	no	
	MOISTURE PROBLEMS					
	Do you	u clean the refrigerator coils and/or drip pan?	often	sometimes	rarely	
	Are the bath?	ere any water leaks or damp areas in kitchen or	no		yes	
	Is there	e carpeting in the kitchen or bathroom?	no		yes	
	Do you use fan or open bathroom window during and after showering or bathing?		yes	sometimes	no	
	Is fan v	vented to the outside?	yes		no-N/A	
	Are the	ere signs of mold growth in corners/windows?	rarely	sometimes	often	
	Has the the sur	Has there been any sewage backup into the building or the surface of the ground in the last 5 years?		?	yes	
	Was th	ne material removed and the area octed?	yes	?	no	
				T		~

Action Steps

35,36

yes

9,38,40,43,5 

46,44,48,51

no

some

Is the basement damp (musty odor; water or mildew;

## The Survey

discolored walls, damp carpets or furniture?)

If there is a crawl space, is it ventilated?

If there is a crawl space, is soil covered with plastic?

If you have a dryer, is it vented to the outside?

Is your home well insulated and without drafts (weather-stripped doors and windows, double paned windows)?

Do windows fog up during the heating season?

Can you open a window in each room?

Does the home have a musty odor or is there visible mildew?

Does the home have any drainage problems?

Has there been any water damage to the building or contents in the last 5 years?

If yes, was the damaged material removed?

#### **INDOOR AIR**

Is this a mobile home or trailer?

Is there any knows particleboard in the floor, built-in cabinets or furniture?

Does your building have asbestos (furnace insulation, Apopcorn≅ ceiling, siding, sheet vinyl flooring)?

If yes, is the asbestos in good condition (i.e., not damaged, loose, or flaking)?

Is this home in an area where radon is common?

If yes or ?, has radon level been measured?

If yes, was the level above 4 pico Curies/liter air?

If you have a garage, is it attached to the home?

How long do you let car idle in garage before driving off?

What kind of kitchen stove do you use?

Do you sometimes smell fuel from furnace of stove?

Do you use a stove fan when cooking?

Is fan vented to the outside?

Is there an unvented kerosene or gas heater?

Do you use a wood stove during cold weather?

<b>Level of Co</b> Lower	ncern: Medium	Higher	Action Steps
yes		no	50
yes	?	no	49
N/A-yes	?	no	52
no	somewhat	yes	53,54
rarely	sometimes	often	9,53,54
yes		no	53
no		yes	7,9,54,44,56
no	?	yes	55
no	?	yes	
yes	?	no	56
no	yes		
no	minimal	yes	57,58,59
no	?	yes	60 if?
yes	?	no	63 if no 61 or 62 if yes
no	?	yes	64
yes		no	64
no		yes	65
N/A-no	yes		66,68
0-15 sec	15-30 sec	>30 sec	67
electric	gas/propane		
no	?	yes	69
yes	sometimes	no	71
yes		no-N/A	72
no	?	yes	73
rarely	1/wk	daily	

## The Survey Do you smell smoke indoors when the stove/fireplace insert is in use? HAZARDOUS HOUSEHOLD PRODUCTS How often do you use the following products? Oil -based paint, stain, varnish, thinner, stripper Spray-on adhesives, paints or lubricants Rubber or contact cement, plastic glue, or epoxy Permanent markers or whiteboard markers Ammonia or chlorine-based cleaners Auto products (degreaser, carburetor cleaner) Solder (for electrical or stained glass work) Photo chemicals If yes, what precautions do you usually take to avoid inhaling these products? Nothing special Use them outside or wear a respirator Open a window Open at least 2 windows or use fan How often do you use any of the following products? Drain cleaner, oven cleaner or toilet cleaner with the work DANGÉR on the label? Do you wear gloves when using them? Do you wear goggles or glasses? Are any flammable products stored near fire or heat? Are any hazardous products within reach of children? Are there any damaged, rusting or open containers? Are there any banned or restricted products? (Banned products include DDT, penta, chlordane,

carbon tetrachloride. Call

complete list if you are unsure.)

How often do you or a commercial service apply pesticides (insecticides, weed killers, rat poison) inside

or outside the home? (Traps do not count.)

Level of Con Lower	ncern: Medium	Higher	Action Steps
never	sometimes	usually	74
never	1/mo-1yr	1/d-1/w	
			75
			75
			75
			75
			75
			85
			88,89
			88,89
			76
			76
			76
			76
			76
never	1/mo-1yr	1/d-1/wk	75
never	<u>1/mo-1/yr</u> □	<u>1/d-1/w</u> □	75
<u>always</u>	sometimes	<u>never</u>	
			77
			77
<u>no</u>		<u>yes</u>	
			79
			80
			81
			82
never	<1/yr	1+/yr	83,84

for a more

# The Survey

If you use pesticides, which of the following safety precautions do you wear?

gloves

long sleeved shirt and pants

hat

goggles or glasses

dust mask (powders) or respirator (SOLVENTS)

How do you dispose of leftover pesticides?

Use up or take to a household hazardous waste collection site

Put them in the trash?

Pour them down the drain

Keep them

Level of Con Lower		Higher	Action Steps		
<u>always</u>	sometimes	<u>never</u>			
			77		
			78		
			78		
			77		
			82		
			81		
			81		
			81		

(Check the boxes below corresponding to the numbers listed under Action Steps in the Survey.)

<u>A</u> 1 □ 2 □ □ 4 □ 5 □ 6 □	Pay special attention to managing dust and other indoor pollutants if you have a large household, small children, pregnant women, older people present or if there is chronic illness.  Smoking is inconsistent with clean air and good health. Top smoking or restrict it to outside the home. Seek medical advise regarding chronic or frequent illnesses. Identify specific allergies.  Keep pets, pet beds, and associated spaces clean. Flea comb cats or dogs.  Vacuum areas frequented by pets, reduce pet access to some parts of home.  Seek additional information on least-toxic control of fleas. Call Washington Toxics Coalition
<b>B</b> 7 □ 8 □ 9 □ 10 □	BUILDING Raise indoor temperatures to 60-68 F to reduce moisture. Lower indoor temperatures to 60-68 F to save energy. Lower humidity levels to 50-60%. Raise humidity levels to 50-60%.
<u>C</u> 11 □ 12 □	NEARBY ENVIRONMENT Identify potential source of pollution and ensure that it is in full compliance with air pollution laws. Identify source of smoke and ask for correction. Help neighbors learn about health risks from wood smoke, and persuade them to control it.
D 13	DUST AND LEAD CONTROL  Seek expert advise on reducing lead levels in the home.  Reduce track-in of dust and lead. Take off shoes or install high quality door mats at all entrances.  Before remodeling, learn safety procedures for limiting exposure to lead and dust.  Have paint tested for lead if home is pre-1978, and especially if there are children present.  Repair or remove damaged lead-based paint. Call the Health Department at 800-287-6429.  If anyone in household has allergies or asthma, consider removing carpeting.  When choosing new carpeting, select level loop carpets (tight weave) rather than plush or shag. Consider not gluing carpet down. Choose carpet with cloth backing rather than rubber.
20	Vacuum with an upright or powerhead vacuum.  Check bag and/or belt more often to help make sure vacuum cleaner is working properly.  Consider wearing a dust mask when vacuuming.  Increase frequency of vacuuming or cleaning.  Vacuum area rugs with a power head vacuum or send out for cleaning.  Pay special attention to vacuuming upholstered furniture and consider removing very old coth covered furniture.
26 □ 27 □ 28 □ 29 □	Wash work clothes separately. Wash hands more frequently. Consider covering pillows and/or mattresses with plastic. Open windows more frequently and keep bedroom window open at night whenever possible, provided it is safe to do so.

30 □	Have furnace checked for proper operation.
31 □	Call the gas company immediately to check possible leak.
32 □	Have furnace ductwork cleaned regularly (about every 5 years).
33 □	Change furnace filters at least twice a year.
34 □	Have an outside combustion air supply installed for furnace.
F	MOISTURE PROBLEMS
<u>E</u> 35 □	Clean drip pan at least every three months.
36 □	Clean refrigerator coils at least every six months.
37 □	Repair water leaks and remove or repair any damaged material.
38 🗆	Reduce kitchen humidity by covering pots, running ventilating fan, or opening windows.
39 □	Consider removing kitchen or bathroom carpeting.
<i>37</i> 🗆	Consider removing kitchen or baumoom carpeting.
40 □	Use fan or open windows to reduce bathroom moisture.
41 □	Bathroom fan should be vented to the outside and preferably have a timer.
$42\;\square$	Repair water leaks in bathroom.
43 □	Clean up mold with chlorine bleach solution (1 cup per gallon of water)>
44 🗆	Remove carpeting if possible.
45 □	Clean and disinfect areas contaminated by sewage backup.
46 🗆	Check drainage, downspouts, and foundation dampproofing.
47 🗆	Remove basement carpeting .
48 🗆	Use a dehumidifier in basement.
49 🗆	Cover crawlspace floor with 6 mil polyethylene, anchor with sand, gravel or bricks.
50 □	Ventilate crawlspace.
51 □	Consult with a specialist on correcting a basement moisture problem.
52 □	Vent clothes dryer to outside.
53 □	Ventilate home by opening windows whenever weather permits. Repair or Replace windows that cannot be opened.
54 □	Minimize water producing activities: take shorter showers, keep lids on pots, use exhaust fans.
55 □	Correct specific drainage problems. Check downspouts, foundation, slope, etc.
56 □	Remove water damaged materials.
<u>F</u>	INDOOR AIR
<u>-</u> 57 □	Have air tested for formaldehyde levels. Call 253-798-7674.
58 □	Seal sources of formaldehyde that cannot be removed. Use a polyurethane or acrylic sealer.
59 □	Remove sources of formaldehyde if levels are very high and/or sources cannot be sealed.
60 □	Test material for asbestos.
61 🗆	Leave asbestos in place.
62 🗆	Cover/isolate asbestos
63 🗆	Inquire about asbestos removal. Go to: pscaa.org or call 800 552-3565
64 🗆	Have home tested for radon.
65 🗆	Consult Radon Hotline (800-323-9727) for information on reducing radon levels.
66 🗆	Clean garage floor, remove hazardous products to shed.
- U	cream parable record remote management production to ones.

67 □	avoid idling car in garage. Drive off immediately after starting.
68 □	Install door mat between garage and home.
69 □	Call the gas company about possible gas leak in stove.
70 □	Install stove fan.
71 🗆	Use stove fan when cooking.
72 □	Vent stove fan to outside.
73 □	Avoid using unvented kerosene or gas heater inside the home.
74 □	Have fireplace/stove checked.
<u>G</u>	HAZARDOUS HOUSEHOLD PRODUCTS
75 □	Use less hazardous products if possible. Call Washington Toxics Coalition (206-632-1545) for suggestions.
76 □	Use hazardous solvent-based products outdoors or open two windows and use a fan.
77 🗆	Wear gloves and goggles when using corrosive products or pesticides.
78 □	Wear appropriate protective gear when applying pesticides: long sleeved shirt and long pants, a non-permeable hat, and a dust mask for powders or a respirator for solvents.
79 □	Move flammable materials away from source of ignition.
80 □	Move hazardous products to area protected from children.
81 🗆	Call Health Department at 800-287-6429 about removal of hazardous products.
82 □	Call Health Department 800-287-6429 about removal of banned products.
	Pesticides that are still legal to use may be used up as directed. If you do not want to use these products, take them to a household hazardous waste collection site. Call the Hazards Line for more information.
83 □	Reduce or eliminate use of indoor pesticides by employing non-chemical controls or using less-hazardous
	products. Call Washington Toxics Coalition
84 □	Avoid calendar applications of pesticides. Treat specific problems only when necessary and use non-chemical controls or less-hazardous chemicals if possible.
85 □	Consider performing activity outdoors.
86 □	Consider performing activity in garage.
87 □	Consider performing activity in room separate from home.
88 🗆	Consider installing ventilation system in room where activity is done.
89 🗆	Learn more about the risks and investigate safety equipment for engaging in this activity.
90 □	Do not put pesticides down the drain or in the trash. Call 800-287-6429.
НОМЕ	E ACTION PLAN SUMMARY:
To imp	prove the health of my/our home, I/we will take these actions in the next six weeks:
1.	
2.	
3.	
Signed	d:

Hello!

After you complete the Do-it-Yourself Home Environmental Assessment List, please list below the three (3) healthy actions you plan to implement in your home to improve indoor air quality.

Action Plan Sum	mary:
To improve the hea next six weeks:	alth of my/our home, I/we will implement the following healthy actions within the
1	
2	
3	
Signature:	
Today's Date:	
Mail this form to:	Clean Air for Kids 3629 South D Street, MS 319 Tacoma, WA 98418
Thank you!	
Amanda Odom	
Clean Air for Kids F	<sup>2</sup> artnership
Master Home Envir	onmentalist Program
(253) 798-2954	
Comments/Questions	s/Supplies needed:



Safe & Healthy Home Environment	tal Assessment
EHA ID #:	
Contact:	
Site Address:	
Contact Phone:	
Date of Site Visit:	
	Date
	-
	Date

## Understanding Your Safe & Healthy Home Report

This report represents the results of a safe and healthy home assessment recently performed at your home. The report includes a general evaluation of the building and the mechanical components in the building along with an assessment of the appliances in your home. Another section of the assessment provides a room by room evaluation of common healthy home issues that can affect the indoor air and environment quality of a home. This assessment shows what issues, if any, were observed and what you should consider changing about your home to improve indoor environmental quality and make your home the healthiest it can be.

This report may include a list of extreme risk and high risk hazards identified during the assessment. Extreme Risk hazards are those hazards that represent an immediate threat to health and safety and need to be addressed as soon as possible. High Risk hazards are those hazards that may results in health problems or contribute to health symptoms and need to be addressed as can be reasonably done. Your assessment professional can help you identify the issues identified in your home during the home assessment and what specific actions can be taken to resolve the issue identified. In order to make your home the healthiest it can be, we recommend you take these actions quickly to reduce or eliminate the issues identified.

It is possible that many issues were identified during your home assessment. The Safe and Healthy Home Program will try to help you address many of the issues identified and can provide you with the names of community organizations that may have funding that you can apply for to help cover the cost of repairing some of the healthy home issues identified in this report. If you have any questions regarding this home assessment report, or about the Safe and Healthy Home Program, or want help working with community organizations to get help with healthy home issues, please contact us at anytime at 816-960-8918.

#### How to Read the Home Assessment Scores in this Report

For the building, mechanical and appliance pages, each component is assessed separately with a series of statements about the condition of that component. For the room assessments, each room is evaluated using 5 healthy home categories. Each item that is part of a component or room category is rated and scored by the assessment professional. If an item looks "OK-Good" or normal, it receives a score of 100 points, if an item is a "Concern", it receives a score of 50 points, if an item is rated as "Take Action", it received 0 points. The assessment score for each component or room category is then an average score of these different items assessed. For example, the air flow and circulation score for the living room is an average score based on 5 different assessment parts.

category is then given its safe and healthy home assessment rating based on the following guidelines: If an item looks "OK-Good" or normal, it received an 85 - 100 points -OK- Good average score for all the items assessed of 85 points or higher. If an item is a "Concern", it received an average score 70 - 85 points -Concern between 70 to 85 points and means there were enough concerns about a particular home component or room, that it should be changed to help improve the indoor environment of the home. If an item is rated as "Take Action", it received an average < 70 points -Take Action score of 70 points or lower. These components or rooms had enough problems with them that we believe they need

indoor environmental health.

The assessment score for each component or room

to be changed as soon as possible to improve your home's

Finally, at the bottom of each room page is the Home Assessment Room Score which is the average score for all 5 of the healthy home categories used to assess a specific room. The higher your room assessment score is the "healthier the room is. The goal of this assessment is to help you make these scores as high as possible.

aithy nome Assess	Date of Site Visit:
Name:	Phone(s):
ddress:	
Front of House	
Compass	
Direction	
eneral Description of t	<u>he Site</u>
Primary Ground Cover:	Grass Dirt Gravel Concrete Other
econdary Ground Cover:	Grass Dirt Gravel Concrete Other
Drainage: Away from	m Found. Toward Found. F to R R to F L to R R to L
arby Pollution Sources	
	Busy Street Highways Interstate H. Way Railroad Other
within 0.25 mi.	Factory Industrial Powerplant Retail Retail Other
eneral Description of t	:he Building
Building Location:	Urban Suburban Rural Other
Building Type:	House Duplex Triplex Townhome Other:
Approximate Age:	Unknown Before 1940 1940-1959 1960-1977 After 1978
Building Are	
Total Number	of Windows: Total Number of Entry Doors:
Outside Weather Condition	
Home Assessor Name(s):	

2.0 Building Assessment:			EHA ID #:			Date of Si	te Visit:			
	OK-	Concern	Take	Not	НН		# of Healt	h/Safety	Hazards	
Roof Type:	Good	Concern	Action	Applic.	Score	Comments	*Note moisture meter readings	Chronic	Acute	
Surface intact										
Any occupant reported/visible leaks										
Any evidence of water damage								- ——		
Drip edge condition								- ——		
Flashing condition Chimney flashing condition				-		-		- —		
Ventilation present										
ventilation present	100	50	0	Score:	.	-	# Identified	4.		
Futonian Cidina Ton					'Ш	0			1	
Exterior Siding Type:	OK	С	TA	NA		Comments	*Note moisture meter readings	Chronic	Acute	
Surface condition								- ——		
Any flaking paint Any leaking/Moisture retention						-		- ——		
Weatherized w/ no visible gaps								- ——		
Weatherized W/ No visible gaps	100	50	0	Score:	$\vdash$		# Identified	d.		
Cuttoring	OK	С	TA	NA		Comments	*Note moisture meter readings		Acute	
Guttering Properly attached and sealed	UK	C	IA	IVA		Comments	Note moisture meter readings	CHIONIC	Acute	
Any flaking paint										
Any leaking/Moisture retention								- —		
Downspouts condition								- —		
Splash block/tile condition				-		-				
·	100	50	0	Score:			# Identified	d:		
Foundation Type:	OK	С	TA	NA		Comments	*Note moisture meter readings		Acute	
Any visible cracks	•	_					Ç .			
Any reported/visible leaks						-				
Weatherized w/ no visible gaps										
Any flaking paint on wall surface										
Crawlspace open to living space?										
	100	50	0	Score:			# Identified	:c		
Exterior Doors Total #:	Т	ype(s):						Chronic	Acute	
	OK	C _	TA	NA		Comments	*Note moisture meter readings			
Surface condition	OK	O	173	14/1		Comments	note meletal e meter readinge			
Any flaking paint								- —		
Any leaking/Moisture retention								- —		
Weatherized / No visible gaps										
	100	50	0	Score:			# Identified	d:		
Exterior Windows Total #:	T	ype(s):						Chronic	Acute	
	OK	С	TA	NA		Comments	*Note moisture meter readings			
Surface condition										
Any flaking paint										
Any leaking/Moisture retention				-				- —		
Weatherized / No visible gaps	100				$\vdash$			- —		
	100	50	0	Score:			# Identified	:t		
Stairs/Steps	OK	С	TA	NA		Comments	*Note moisture meter readings	Chronic	Acute	
Surface condition										
Any flaking paint										
Outside stairs condition										
Handrails Present (>3 steps)										
	100	50	0	Score:			# Identified	:b		
Electrical Service	OK	С	TA	NA		Comments	*Note moisture meter readings	Chronic	Acute	
open service panels?		-					Ç			
Main panel covered/attached properly	,					-				
Any exposed wiring?										
	100	50	0	Score:			# Identified	d:	7	
							Total Hazards Identified	₁.	一	
							i otai i iazai us luciltillet	4 - J	1	

2.0 Mechanical Assessment	: E	EHA ID #:		ı	Date of Si	te Visit	:		# of Healt	# of Health/Safety		
Heating System Type:  Main box intact Exhaust properly attached & sealed Exhaust system works (neg. flow) Any dust covered components Returns properly attached and seale Supplies properly attached and seal Any suspect material Filter properly seated and sealed		OK	С	TA	NA		Comme	ents			Chronic	Acute
Correct filter size Pleated filter in use(min. MERV= Filter condition Filter changed quarterly (min)	=8)	·										
Furnace Filter Size X		100	50	0	Score:		-			# Identified	:	
System Humidifier Properly attached & sealed Any reported/visible leaks		OK	С	TA	NA		Comme	ents			Chronic	Acute
Any suspect mold visible Water supply line connected con Evaporator Condition	rrectly											
Evaporator Condition		100	50	0	Score:		-			# Identified	:	
Central Air Any reported/visible leaks		OK	С	TA	NA		Comme	ents			Chronic	Acute
Condition of coolant line Condensate hose extends into d	rain											
		100	50	0	Score:					# Identified	:	
Water Heater Type: Any reported/visible leaks Condition of pressure relief valv	/e	_ OK	C	TA	NA ———		Comme	ents			Chronic	Acute
Water temp setting <u>L</u> ow Steel or brass gas line Exhaust attached properly	Med.											<u> </u>
Exhaust system works (neg. flow	v)	100	50	0	Score:					# Identified	:	
Home Plumbing Main	OK	Supply	TA	NA		OK	Waste C	TA	NA		Chronic	Acute
Any reported/visible leaks Line/Pipe condition Operating properly	UK	C	1A 									
Fixture Condition <u>Kitchen Sink</u>	100	50	0	Score:		100	50	0	Score:			
Any reported/visible leaks _ Line/Pipe condition _ Operating properly _ Fixture Condition											<u></u>	<u> </u>
Tub/Shower  Any reported/visible leaks	100	50	0	Score:		100	50	0	Score:			
Line/Pipe condition Operating properly												
Fixture Condition  E Toilet	100	50	0	Score:		100	50	0	Score:			
Any reported/visible leaks Line/Pipe condition Operating properly											<u> </u>	<u>=</u>
Fixture Condition	100	50	0	Score:		100	50	0	Score:			
Any reported/visible leaks Line/Pipe condition Operating properly Fixture Condition											<u></u>	=
TIXTUIC CONDITION	100	50	0	Score:		100	50	0	Score:	# Identified	:	
	Plui	mbing S	upply	Score:		Plu	mbing	Waste	Score:			
								To	otal Haz	ards Identified	:[]	

2.0 Appliance Assessment:	E	:HA ID #:		Date of	Site Visit	: # of Hea	alth/Safe	ty Hazaro
Stove Type:	OK	С	TA	NA	Score	Comments	Chronic	Acute
Burners/oven operating properly		<u> </u>						
Gas stoves - Any CO detected								
Steel or brass gas line		· —— ·						
Working exhaust system Exhausted to outside		<del></del> -				-		
Cord condition		<del></del> -						
oord condition	100	50	0	Score:		# Identified	. 🗀	
Dofrigorator	OK	С	TA	NA		Comments	. Chronic	
Refrigerator Unit clear of dust and debris	UK	C	IA	IVA		Comments	CHIOHIC	
Pre-1980: Evaporation pan in place								
TTO T700.Evaporation pair in place	100	50	0	Score:		# Identified	. 🗀	
Washer	OK	С	TA	NA		Comments	Chronic	
Water draining properly	OK	O	17	14/1		Comments		
Any reported/visible water leaks				· ———				
Cord condition				-				
	100	50	0	Score:		# Identified	:	
<u>Dryer</u> Type:	OK	С	TA	NA		Comments	Chronic	Acute
Steel or brass gas line								
Dryer ducting condition								
Dryer duct exhausts to outside								
Cord condition								
	100	50	0	Score:		# Identified	:	
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	01/	Unit 1	Τ.			Unit 2		Chronio
Window AC	OK	С	TA	NA		OK C TA NA		Chronic
Operating correctly								
Any reported/visible water leaks Cord condition								
Filter condition								
Tilted to drain outside				-				
Evaporator pan drain working				-				
	100	50	0	Score:		100 50 0 Score: # lo	dentified	
Air Cleaner	OK	С	TA	NA		Comments	Chronic	
Condition of air cleaner	OIC	J	.,,	1471		Odifficities		
Appropriate size for location				- ——				
Allergen filtration present								
Filter condition								
Any Electronic Observed								
	100	50	0	Score:		# Identified	:	
<u>Humidifier</u>	OK	С	TA	NA		Comments	Chronic	
Condition of humidifier								
Hot water/steam type humidifier								
Rinsed, water changed daily Disinfected weekly (minimum)								
Distillected weekly (Illillillidill)	100	50	0	Coro		# Identified	. —	
Portable Fans	OK	C	TA	Score: NA		Comments # Identified	 Chronic	
Portable Fans Operational	UK	C	IA	INA		Comments	Cilionic	
Any accumulated dust on blades				·		-		
Blade protection in place								
Cord condition				-				
	100	50	0	Score:		# Identified	:	
Space Heaters	OK	С	TA	NA		Comments	Chronic	Acute
Any unvented fuel heaters								
Tilt safety shut-off switch								
Cord condition								
	100	50	0	Score:		# Identified	:	
Safety Equipment	OK	С	TA	NA		Comments	Chronic	Acute
Working smoke detectors						Battery Check: Pass Fail		
Working CO detectors						Battery Check: Pass Fail		
Kitchen fire extinguisher					$\square$			
Handrails on inside stairs with >3 steps					$\square$			
	100	50	0	Score:		# Identified		
						Total Hazards Identified	:	

3.0 EHA Room Survey: Child's Bedroom		EHA ID #: Date of Site Visit:							
	OK-		Take	Not	нн -		# of Health	/Safety I	Hazards
Air Flow and Circulation Working supply vent Supply vent condition If return vent present - working	Good	Concern	Action	Applic.	Score	Description		Chronic	Acute
Return vent(s) Condition Room under (+) pressure									
*Note airflow readings	100	50	0	Score:			# Identified:		
Allergens & Dust  Any excessive visible dust Any carpeting present Carpet condition Any upholstered furniture Upholstered furniture condition Mattress condition	OK	C	TA	NA		Description		Chronic	Acute
Bedding condition Any stuffed toys/animals present Any cloth window coverings Any furry/feathered pets in room Any clutter Any reported/visible evid. of rodents Any reported/visible evid. of insects Any trash/debris on surfaces									<u> </u>
· -	100	50	0	Score:		-	# Identified:		
Moisture Control  Any damp smell  Any visible moisture stains	OK	C	TA	NA ———		Description	MM Read	Chronic	Acute
If present, visible moisture ranking:						*Note any mo	sture meter readings		
Area affected:			total sq	ft.					
Any suspect visible mold									
Visible mold ranking:  0 <10 >10  Area affected:  100 50 0	100	50	total sq.						
				Score:			# Identified:		
Chemical Exposure Any smoking allowed in room Any chemical odors Any air fresheners Any candles or incense	OK	C	TA	NA 		Description		Chronic	Acute
Any reported/visible chemical supplies Any flaking paint on any surface									
Flaking Paint Ranking:  0 <1 >1	100	50	0						
Area affected: 100 50 0			total sq	ft. Score:			# Identified:		
Safety & Injury Prevention Smoke detector in /near room CO detector near room	OK	C	TA	NA ——		Description		Chronic	Acute
Any overloaded/small gauge ext. cords						-			
If windows present-operational Any slip/trip/fall hazards									
Small Children (<7 yrs old):  Receptacle plug covers  Any blind (curtain cords w/in reach									
Any blind/curtain cords w/in reach Window guards (2nd Floor) present Chemicals stored in locked cabinets									
Medicines stored in locked cabinets									
Home A	100	50 Sment	0 Room	Score:	==	Total Haza	# Identified: rds Identified:		
noine <i>F</i>	いつつこうご	ornelit.	NUUIII	ひしい せ.	1	i ulai naza	i us iuciiliiiliilii.	1	1 1

3.0 EHA Room Survey: Master Bedroom			1	EHA ID #: Date of Site Visit:					
	OK-		Take	Not	нн -		# of Health	/Safety I	Hazards
Air Flow and Circulation Working supply vent Supply vent condition If return vent present - working	Good	Concern	Action	Applic.	Score	Description		Chronic	Acute
Return vent(s) Condition Room under (+) pressure		-							
*Anyte airflow readings	100	50	0	Score:			# Identified:		
Allergens & Dust  Any excessive visible dust Any carpeting present Carpet condition Any upholstered furniture Upholstered furniture condition Mattress condition	OK	C	TA	NA 		Description		Chronic	Acute
Bedding condition Any stuffed toys/animals present Any cloth window coverings Any furry/feathered pets in room Any clutter Any reported/visible evid. of rodents Any reported/visible evid. of insects Any trash/debris on surfaces									<u>=</u>
-	100	50	0	Score:			# Identified:		
Moisture Control  Any damp smell  Any visible moisture stains	OK	C	TA	NA ———		Description	MM Read	Chronic	Acute
If present, visible moisture ranking:  0 <10 >10  Area affected:  Any reported/visible window leaks  Any room humidifier  Any mold smell			total sq.	ft.		*Note any mo	isture meter readings		
Any suspect visible mold Visible mold ranking:	100	50	0						
0 <10 >10  Area affected: 100 50 0			total sq.	ft. Score:			# Identified:		
Chemical Exposure	OK	С	TA	NA		Description	# Identified.	Chronic	Acute
Any smoking allowed in room Any chemical odors Any air fresheners Any candles or incense								<u> </u>	
Any reported/visible chemical supplies Any flaking paint on any surface									
Flaking Paint Ranking:  0 <1 >1	100	50	0						
Area affected: 50 0			total sq.	ft. Score:			# Identified:		
Safety & Injury Prevention Smoke detector in /near room	OK	C	TA	NA		Description		Chronic	Acute
CO detector near room Any overloaded/small gauge ext. cords									
If windows present-operational Any slip/trip/fall hazards Small Children (<7 yrs old):									
Receptacle plug covers Any blind/curtain cords w/in reach									
Window guards (2nd Floor) present Chemicals stored in locked cabinets	-								
Medicines stored in locked cabinets	100	50	0	Score:			# Identified:		
Home A						Total Haza	rds Identified:		

3.0 EHA Room Survey: Family	Survey: Family/Living Room			EHA ID #: Date of Site Visit:					
<u> </u>	OK-		Take	Not	HH -		# of Health/	/Safety F	Hazards
Air Flow and Circulation  Working supply vent Supply vent condition If return vent present - working	Good	Concern	Action	Applic.	Score	Description		Chronic	
Return vent (s) Condition Room under (+) pressure									
*Anyte airflow readings	100	50	0	Score:			# Identified:		
Allergens & Dust	OK	С	TA	NA		Description		Chronic	Acute
Any excessive visible dust Any carpeting present Carpet condition Any upholstered furniture Upholstered furniture condition									
Mattress condition Bedding condition									
Any stuffed toys/animals present Any cloth window coverings Any furry/feathered pets in room									
Any clutter Any reported/visible evid. of rodents Any reported/visible evid. of insects									
Any trash/debris on surfaces		-				-			
	100	50	0	Score:			# Identified:		
Moisture Control  Any damp smell  Any visible moisture stains	OK	C	TA	NA		Description	MM Read	Chronic	Acute
If present, visible moisture ranking:  0 <10 >10						*Note any m	noisture meter readings		
Area affected:			total sq.	ft.					
Any mold smell Any suspect visible mold									
Visible mold ranking:  0 <10 >10	100	50	0	£1					
Area affected: 100 50 0			total sq.	Score:			# Identified:		
Chemical Exposure Any smoking allowed in room Any chemical odors	OK	C	TA	NA ———		Description		Chronic	Acute
Any air fresheners Any candles or incense Any reported/visible chemical supplies								_	
Any flaking paint on any surface Flaking Paint Ranking:	100	50	0						
0 <1 >1 Area affected: 100 50 0			total sq.				# Idoubified		
Safety & Injury Prevention Smoke detector in /near room	OK	С	TA	Score: NA		Description	# Identified:		Acute
CO detector near room Any overloaded/small gauge ext. cords If windows present-operational									
Any slip/trip/fall hazards Small Children (<7 yrs old): Receptacle plug covers									
Any blind/curtain cords w/in reach Window guards (2nd Floor) present									
Chemicals stored in locked cabinets  Medicines stored in locked cabinets		-				-			
_	100	50	0	Score:			# Identified:		
Home A	sses	sment	Room	Score:		Total Haz	ards Identified:		

3.0 EHA Room Survey: Kitch	en				EHA ID #:		Date of Site Visit:		
	OK-		Take	Not	НН		# of Health/	Safety I	Hazards
Air Flow and Circulation Working supply vent Supply vent open Supply vent unobstructed If return vent present - working Return vent(s) unobstructed	Good	Concern	Action	Applic.		Description		Chronic	
Exhaust fan present/operational Exhaust fan used during cooking Room under (-) pressure*		-							<u> </u>
*Note airflow readings	100	50	0	Score	:		# Identified:		
Allergens & Dust  Any visible dust  Any carpeting/upholstery present  Any cloth window coverings  Any furry/feathered pets in room  Any clutter  Bulk food in containers  Trash stored in container w/ lid  Any cracks/gaps around cabinets  Any reported/visible evid. of rodents  Any reported/visible evid. of insects	OK	C	TA	NA		Description		Chronic	Acute
Any trash/debris on surfaces									
Majatura Caratral	100	50	0	Score	:	Danadatian	# Identified:	Chronic	Acuto
Moisture Control  Any damp smell  Any visible moisture stains	OK	C	TA	NA ———		Description	MM Read		Acute
If present, visible moisture ranking:	-		· <del></del>			*	Note any moisture meter readings		
0 <10 >10 Area affected:			total sq.	ft					
Any reported/visible window leaks Any room humidifier									
Any mold smell									
Any suspect visible mold Visible mold ranking:  0 <10 >10	100	50	0						
Area affected: 100 50 0			total sq	. ft. Score			# Identified:		
Chemical Exposure  Any smoking allowed in room Any chemical odors Any air fresheners	OK	C	TA	NA		Description		Chronic	Acute
Any candles or incense Chemicals stored in orig. container Food stored away from chemicals Any flaking paint on any surface									
Flaking Paint Ranking:	100	50	0						
0 <1 >1 Area affected: 100 50 0			total sq	ft. Score			# Identified:		
Safety & Injury Prevention Smoke detector in /near room CO detector near room	OK	C	TA	NA		Description		Chronic	Acute
Fire extinguisher present & working Any overloaded/small gauge ext. cords If windows present-operational									<u> </u>
Chemicals stored in childproof cab. GFCI near water sources								<u> </u>	<u> </u>
Measured Water Temp. (deg. F) Any slip/trip/fall hazards Small Children (<7 yrs old):			·						
Receptacle plug covers Cabinet locks on doors		-	. ———						
Any blind/curtain cords w/in reach Medicines stored in locked cabinets			· ——						
modulation of the following state of the foll	100	50	0	Score	:		# Identified:		
Home	Αςςρς	sment	Room	Score		Tot	al Hazards Identified:		

3.0 EHA Room Survey: Bathro	oom				EHA ID #:		Date of Site Visit:		
	OK-		Take	Not	НН		# of Health.	/Safety i	Hazards
Air Flow and Circulation Working supply vent Supply vent open Supply vent unobstructed	Good	Concern	Action	Applic.		Description		Chronic	Acute
If return vent present - working Return vent(s) unobstructed Exhaust fan present									
Exhaust fan used during/after showers Room under (-) pressure*									
*Note airflow readings	100	50	0	Score:			# Identified	:	
Allergens & Dust  Any visible dust  Any carpeting/upholstery present  Any cloth window coverings  Any furry/feathered pets in room  Any clutter  Trash stored in container w/ lid	OK	C	TA	NA 		Description		Chronic	Acute
Any cracks/gaps around cabinets Any reported/visible evid. of rodents Any reported/visible evid. of insects Any trash/debris on surfaces									
	100	50	0	Score:			# Identified		
Moisture Control  Any damp smell	OK	C	TA	NA ——		Description	MM Read	Chronic	Acute
Any visible moisture stains If present, visible moisture ranking:							*Note any moisture meter readings		
0 <10 >10 Area affected:			total sq	. ft.					
Any reported/visible window leaks Any mold smell Any suspect visible mold									
Visible mold ranking:  0 <10 >10  Area affected:	100	50	total sq.	ft					
100 50 0			total sq	Score:		-	# Identified	:	
Chemical Exposure Any smoking allowed in room Any chemical odors Any air fresheners	OK	C	TA	NA		Description		Chronic	Acute
Any candles or incense Any reported/visible chemicals Chemicals stored in orig. container									
Any flaking paint on any surface Flaking Paint Ranking:	100	50	0						
0 <1 >1 Area affected: 100 50 0			total sq	. ft. Score:			# Identified		
Safety & Injury Prevention Smoke detector in /near room	OK	С	TA	NA		Description	# luentineu	Chronic	Acute
CO detector near room Fire extinguisher present & working Any overloaded/small gauge ext. cords									
If windows present-operational Chemicals stored in childproof cab.									
GFCI near water sources  Measured Water Temp. (deg. F)  Any slip/trip/fall hazards									
Small Children (<7 yrs old): Receptacle plug covers Cabinet locks on doors									
Any blind/curtain cords w/in reach Medicines stored in locked cabinets									
	100	50	0	Score:		-	# Identified		
Home A	Assess	sment	Room	score:		To	tal Hazards Identified:	:1 1	. 1

3.0 EHA Room Survey: Basei	ment				EHA ID #:	Date of Site Visit:			
<u> </u>	OK-		Taka	- Not	НН	#	of Health/Sa	fety F	lazards
Air Flow and Circulation Working supply vent	Good	Concern	Take Action	Not Applic.		Description		-	Acute
Supply vent open							<b>_</b>		
Supply vent unobstructed Any return vent(s) present		· -							
Any crawlspace open to room							<b>_</b> _		
Room under (-) pressure									
*Note airflow readings	100	50	0	Score	:	#	Identified:		
Allergens & Dust	OK	С	TA	NA		Description	Chi	ronic	Acute
Any visible dust									
Any carpeting/upholstery present		· -							
Any cloth window coverings Any furry/feathered pets in room									
Any reported/visible evid. of rodents		·							
Any reported/visible evid. of insects									
Any clutter Bulk food in containers									
Trash stored in container w/ lid		· <del></del>							
Any trash/debris on surfaces									
	100	50	0	Score	:	#	Identified:		
Moisture Control	OK	С	TA	NA		Description	Chi	ronic	Acute
Any damp smell						<u>N</u>	MM Read		
Any visible moisture stains If present, visible moisture ranking:						*Note any moisture meter	r readings		
o <10 >10						Note any moisture meter	readings		
Area affected:			total sq	. ft.			<del>_</del>		
Any reported/visible window leaks							<b>_</b>		
Any visible cracks in floor & walls Any seepage / standing water			· ——				<b>_</b>		
Floor drain functioning properly									
Any mold smell									
Any suspect visible mold	400								
Visible mold ranking: 0 <10 >10	100	50	0						
Area affected:			total sq	. ft.					
100 50 0				Score	:	#	Identified:		
Chemical Exposure	OK	С	TA	NA		Description	Chi	ronic	Acute
Any smoking allowed in room							<b>_</b>		
Any chemical odors Any air fresheners		-					<del>_</del>		
Any candles or incense		· ·	-						
Chemicals stored in orig. container									
Food stored away from chemicals  Any flaking paint on any surface		· -							
Flaking Paint Ranking:	100	50	0						
Area affected: 0 <1 >1			total sa	f+					
100 50 0			total sq	Score:		#	Identified:	$\neg$	
Safety & Injury Prevention	OK	С	TA	NA	· <u> </u>	Description " '	<u> </u>	ronic	Acute
Smoke detector in /near room	UK	C	IA	IVA		Description	OIII	TOTAL	710010
CO detector near room									
Chemicals stored in childproof cab.  GFCI near water sources		· -					<b>_</b>		
Any overloaded/small gauge ext. cords	-						<del>_</del>		
Any open junction box/outlets									
If windows present-operational Any slip/trip/fall hazards							<b>_</b>	—	
Handrails on stairs							<del>_</del>		
Stair lighting Present/Operational									
Small Children (<7 yrs old):									
Receptacle plug covers Cabinet locks on doors		·					<del>_</del>		
Any blind/curtain cords w/in reach									
Medicines stored in locked cabinets				C =			Lile in tife:	———————————————————————————————————————	
	100	50	0	Score	-		Identified:	<b>—</b>	
Home	Asses	sment	Room	Score:	:	Total Hazards Ide	ntified:		

5.0 EHA Attached Structure Ass	sessm	ent			EHA ID #:	Date of Site Visit:		
Attached Garage	OK-		Take	Not	HH	# of Hea	alth/Safe	ty Hazar
Air Flow and Circulation  Any crawlspace open to room	Good	Concern	Action	Applic.	Score	Description	Chronic	Acute
Garage Door Condition Any openings to living space								
Any return vent(s) present Room under (-) pressure								
*Note airflow readings	100	50	0	Score:		# Identified	i:	
Allergens & Dust  Any reported/visible evidence of rodents Any reported/visible evidence of insects Any open/unused cardboard boxes	OK	C	TA	NA 	Score	Description	Chronic	Acute
Any trash/debris/clutter	100	50		Score:		# Identified	ı:	
Moisture Control	OK	С	TA	NA	Score	Description		Acute
Any damp smell Any visible moisture stains Any mold smell								
Any suspect visible mold Visible mold ranking:	100	50	0			*Note any moisture meter readings		
Area affected: 0 <10	>10		total so	q. ft.				
100 50	0		=	Score:		# Identified	i:	
Chemical Exposure  Any smoking allowed in room Any reported/observed idling venicles	OK	C	TA	NA	Score	Description	Chronic	Acute
Any chemical odors								
Chemicals stored in orig. container Any flaking paint on any surface								<u> </u>
	100	50	0	Score:		# Identified		
Safety & Injury Prevention Chemicals stored in childproof cab.	OK		TA	NA ——	Score	Description	Chronic	Acute
Any overloaded/small gauge ext. cords Fire Extinguisher present/working Adequate stairwell lighting								
Enclosed Porches/Decks	100	50	0	Score:		# Identified	i:	
Allergens & Dust Any reported/visible evid. of rodents	OK	C	TA	NA	Score	Description	Chronic	Acute
Any reported/visible evid. of insects Any open/unused cardboard boxes Any trash/debris/clutter								
ruly trustin debrish clatter	100	50	0	Score:		# Identified	i:	
Moisture Control Any visible moisture stains*	OK	C	TA	NA 	Score	Description	Chronic	Acute
Any Visible Leaks* Any mold smell Any suspect visible mold								
*Note any moisture meter readings	100	50	0	Score:		# Identified	l:	
<u>Chemical Exposure</u> Any smoking allowed on porch	OK	C	TA	NA	Score	Description	Chronic	Acute
Any chemical odors Chemicals stored in orig. container Any flaking paint on any surface								
Flaking Paint Ranking:	100	50	0					
Area affected: 100	>1		total so	q. ft. Score:		# Identified	1.	
Safety & Injury Prevention Any open junction box/outlets	OK	С	TA	NA	Score	Description # Identified		Acute
Any slip/trip/fall hazards Handrails on Stairs								
Stair lighting Present/Operational	100	50		Score:	$\vdash$	# Identified	ı:	
Children's Mercy Hospital © 2010				23010.		, 123		

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6.0 Environmental Measurements: EHA#	Date of Site Visit:
Exhaust Vents	Dath Enhanced 1
Kitchen Exhaust 1 Exhaust test Method Paper check	Bath Exhaust 1  Exhaust test Method Paper check
Pass Fail Vapor/smoke	Pass Fail Vapor/smoke
Manometer cfm	
Kitchen Exhaust 2	Bath Exhaust 2
Exhaust test Method Paper check	Exhaust test Method Paper check
Pass Fail Vapor/smoke	Pass Fail Vapor/smoke
Manometercfm	Manometercfm
Gas Appliance Testing OK C TA	NA Comments Chronic Acute
No reported/observed gas leak	
Measurement Performed?	
Yes No Measurement Type:	
!!! If no gas is detected, it is now safe to per	form combustion appliance testing !!!
Home Heating System 1: Natural Gas LP Gas	Home Heating System 2: Natural Gas LP Gas
Spillage Test Method Vapor/smoke tube	Spillage Test Method Vapor/smoke tube
COppm	CO ppm
Pass Fail Mnmtr. cfm	Pass Fail Mnmtr. cfm
Other	Other
Combustion Appliance Zone (CAZ) Test  Pass Fail	Combustion Appliance Zone (CAZ) Test  Pass Fail
Method CO ppm Other	Method CO ppm Other
CAZ- Worst-case Depressurization Test	CAZ- Worst-case Depressurization Test
Measured Pressure: pascals	Measured Pressure: pascals
Pass Fail CO ppm	Pass Fail CO ppm
Gas Water Heater 1: Natural Gas LP Gas	Gas Water Heater 2: Natural Gas LP Gas
Spillage Test Method Vapor/smoke tube	Spillage Test Method Vapor/smoke tube
CO ppm	CO ppm
Pass Fail Mnmtr. cfm	Pass Fail Mnmtr. cfm
Other	Other
Combustion Appliance Zone (CAZ) Test	Combustion Appliance Zone (CAZ) Test
Pass Fail Other	Pass Fail Other
Method CO ppm Other  CAZ- Worst-case Depressurization Test	Method CO ppm Other  CAZ- Worst-case Depressurization Test
Measured Pressure: pascals	Measured Pressure: pascals
Pass Fail CO ppm	Pass Fail CO ppm
Gas Stove: Natural Gas LP Gas Combustion Appliance Zone (CAZ) Test	Gas Dryer: Natural Gas LP Gas Combustion Appliance Zone (CAZ) Test
Pass Fail	Pass Fail
Method CO ppm Other	Method CO ppm Other
CAZ- Worst-case Depressurization Test	CAZ- Worst-case Depressurization Test
Measured Pressure: pascals	Measured Pressure: pascals
Pass Fail CO ppm	Pass Fail CO ppm

3.0	House/	'Floor	/Room	Plan	Drawings
-----	--------	--------	-------	------	----------

EHA ID #:

Date:

Items to be included on floor plan drawing:

- \* Smoke tube applicable doorways
- \* Measure and note ft' and ft' for each room assessed
- \* Note locations for supply, return, and exhaust vents
- \* Note room contents (tables, couches, dressers, etc.)
- \* Note locations of moisture sources (sinks, toilets, W/D, etc.)
- \* Note locations of "issues"

Issues Key

F - Fragranced products

C - Chemical products

MS - Moisture stain

SM - Suspect mold

FP - Flaking paint

SH - Safety hazard

	Compass Direction:	
	Compass Direction.	
		<del></del>
		<u> </u>
		<del></del>
Door 1 Door 2 Pressure Readings/	Door 3         Door 4         Door 5         Door 6         Door	7 Door 8 Door 9 Door 10
Smoke Tube		<u> </u>
Measurements		

4.0 Field Notes and Calculations	EHA ID #:	Date:	
Home Assessor Name(s):			
			<u> </u>

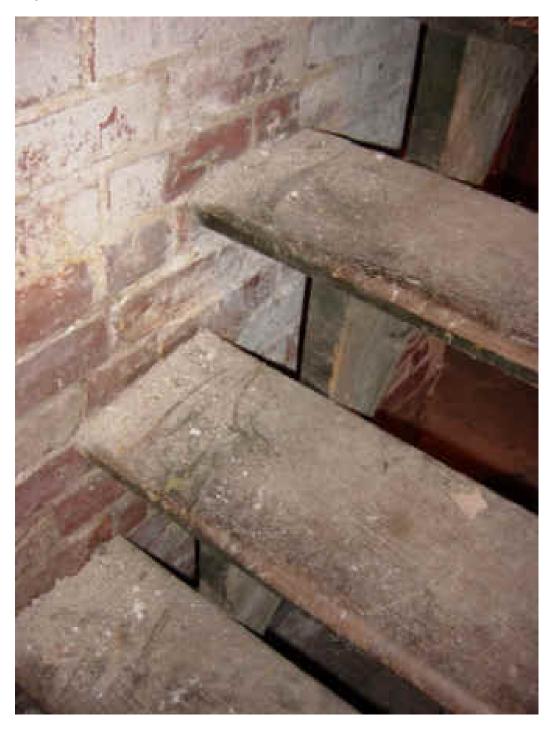
# Module 1 - Resident Interview Exercise 4: Virtual Resident Interview

This worksheet is to be used in conjunction with the Pediatric Environmental Home Assessment (PEHA). For each section, make notes on how the interview and assessment were conducted. Note specific hazards identified on the PEHA form.

1.	Welcome and Introductions (video)
2.	Basement and Exterior (text and images)
3.	Kitchen (video and images)
4.	Living Room (video and images)
-	

6. Bedroom and Bathroom (video and images)  7. Medication Review and Wrap-up (video and images)	5.	Neighborhood (images)
	6	Redroom and Rathroom (video and images)
7. Medication Review and Wrap-up (video and images)	0.	bedroom and batmoom (video and images)
7. Medication Review and Wrap-up (video and images)		
7. Medication Review and Wrap-up (video and images)		
7. Medication Review and Wrap-up (video and images)		
7. Medication Review and Wrap-up (video and images)		
7. Medication Review and Wrap-up (video and images)		
7. Medication Review and Wrap-up (video and images)		
7. Medication Review and Wrap-up (video and images)		
7. Wedication Neview and Wrap-up (video and images)	7	Medication Review and Wran-up (video and images)
	٧.	Wedication Neview and Wrap-up (video and images)

## BASEMENT



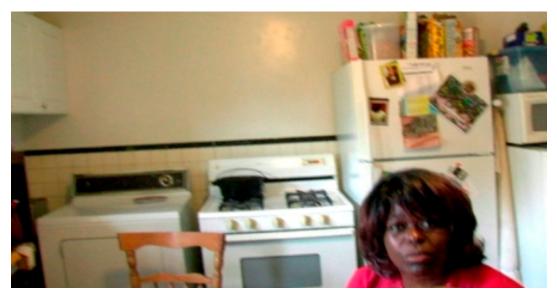


## **EXTERIOR**

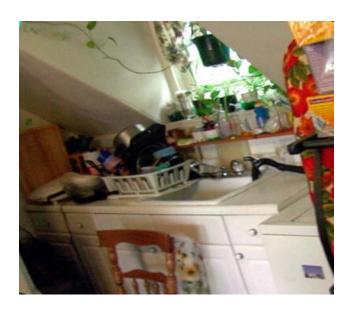




## KITCHEN























## LIVING ROOM

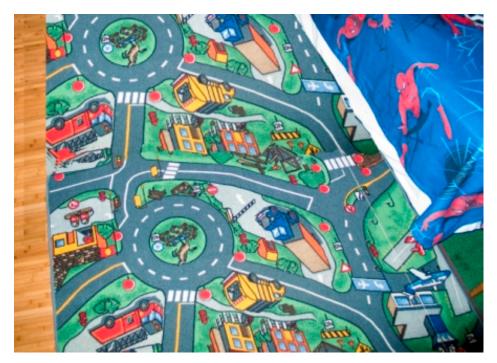








#### BEDROOM









### BATHROOM









## Pediatric Environmental Home Assessment

DRAFT 5/12/06

### RESIDENT REPORTED INFORMATION

**Bolded** responses indicate areas of greater concern.

	,						
Gene	eral Housing Charac	teristics					
Type	of Ownership	☐ Own house	□ Ma	arket rate rental hsg.	□s	ubsidized rental hsg.	☐ Shelter
Age	of Home	☐ Pre-1950	□ 19	50-1978	ПP	ost-1978	☐ Don't know
Struc	tural Foundation	☐ Basement	□ Sla	ab on grade	u c	rawlspace	
	rs Lived In ck all that apply)	□ Basement	□ 1 <sup>st</sup>		□ 2 <sup>r</sup>	nd	☐ 3 <sup>rd</sup> or higher
	Fuel Used	☐ Natural gas / LPG	□ Oi		QΕ	lectric	□Wood
bu	Sources in Home	□ Radiators	□Fo	rced warm air	☐ Space heater or oven		☐ Other:
Heating	Filters Changed	□Yes	□No	)	□ D	on't know	□ No filters
	Control	☐ Easy to control heat	□На	ard to control heat			
Cool	ing	☐ Windows	□ Ce	entral/window AC	□Fa	ans	□ None
	ilation k all that apply)	☐ Open windows	□ Kit	tchen/bathroom fans	□С	entral ventilation	☐ HEPA air filter
NOTI							
Indo	or Pollutants						
Mold	and Moisture	☐ Use dehumidifier☐ No damage		☐ Use vaporizer or humidifier	•	☐ Musty odor evident	☐ Visible water / mol damage
<b>'</b> 0	Presence	☐ No pets		□ Cat #		□ Dog #	Other:
Pets	Management	☐ Kept strictly outdo	oors	☐ Not allowed in patient's bedroom		☐ Full access in home	☐ Sleeping location:
	Cockroaches	□ None		☐ Family reports		☐ Evidence seen	Present in  kitchen
S	Mice	□ None		☐ Family reports		☐ Evidence seen	Present in 🗆 kitchen

### NOTES:

### NURSE OBSERVED INFORMATION

**Bolded** responses indicate areas of greater concern.

Home En	vironment									
Drinking \	Water Source	Public water sys	stem	☐ Household We	ell	☐ Shared Well				
Kitchen	Cleanliness	No soiling		☐ Trash or garbaç sealed	ge	☐ Trash or garbage not sealed		☐ Wall/ceiling/floor damage		
Kitc	Ventilation	☐ Functioning storexhaust fan/vent	ve	☐ Mold growth present		☐ Broken stove exhaust fan/vent		☐ No stove exhaust fan/vent		
Bathroom	1	☐ Functioning exh	aust	☐ Mold growth present		0		⊒ Wall/ceilir damage	ng/floor	
Basemen	t	□ None/No Acces	S	☐ Mold growth present		☐ Needs cleaning and maintenance damage ☐ Wall/ceiling/		ng/floor		
Living Ro	om	□ No soiling		☐ Mold growth present		_		⊒ Wall/ceilir damage	Wall/ceiling/floor amage	
Laundry a	area	□ None		☐ Well maintained	b	☐ Dryer not vented outside	☐ Hang clothes to dry		nes to dry	
Sleep Env	vironment		'		'					
Patient's	sleep area	☐ Own room			☐ Shared # in room		☐ Other			
# Beds		<b>0</b> 0		□ 1		<b>□</b> 2		☐ More than 2		
Allergen impermea		☐ On mattress and boxspring (zippered)			☐ On mattress only (zippered)			□ No mattress covers		
Pillows		☐ Allergen-proof		☐ Washable		☐ Feather/ down				
Bedding		☐ Washable		□ Wool/not was	hable	☐ Feather/ down				
Flooring		☐ Hardwood/Tile/Lin	☐ Hardwood/Tile/Linoleum		g	☐ Large area rug		☐ Wall-to	-wall carpet	
Dust/mole	d catchers	☐ Stuffed animals/wattoys	☐ Stuffed animals/washable coys		le	□ Plants		□ Other _		
Window		<ul><li>Washable shades, curtains</li></ul>			□ Washable blinds		i	□ No window/ poor ventilation		
Other irrit	ants	☐ Abundant cosmetic fragrances	s and							
NOTES:										
Home Sat		g code violations								
General										
	novation or r		☐ Yes		□ No	) No				
. •		ls, railings, porches	☐ Yes		□ No	) No				
*Hallway			☐ Ade	quate	☐ Ina	ndequate				
	ontrol numbe		☐ Post	ed by phone	□ No	t posted by phone				
**Family f	ire escape p	lan	Deve	eloped and have vailable	□ No	ne				
space hea	ater)	radio, hair dryer,	□ Not	used near water	□ Us	ed near water				
	and lighters	stored	□ Out c	of child's reach	□ Wi	thin child's reach				
Exterior e	environment		□ Well	maintained	□ Ab debri:	undant trash and s		hipping, ling paint	☐ Broken window(s)	

NOTES:

### **NURSE OBSERVED INFORMATION (continued)**

Home Safety * can indicate housing code violations			
Young Children Present	□ Yes	□ No	
Coffee, hot liquids, and foods	☐ Out of child's reach	☐ Within child's reach	
Cleaning supplies stored	☐ Out of child's reach	☐ Within child's reach	
Medicine and vitamins stored	☐ Out of child's reach	☐ Within child's reach	
Child (less than six years old) been tested for lead poisoning	☐ Within past 6 months  Result:	☐ Within past year or more. When? Result:	□ No
Child watched by an adult while in the tub	☐ Always	☐ Most of the time	□ No
*Home's hot water temperature	□ <120 F	□ >120 F	☐ Don't know
Non-accordion toddler gates used	☐ At top of stairs	☐ At bottom of stairs	□ No
Crib mattress	☐ Fits well	☐ Loose	
Window guards	□Yes	□ No	
Window blind cords	□ Split cord	☐ Looped cord	

### NOTES:





and developed by



### **National Center for Healthy Housing**

10227 Wincopin Circle, Suite 200 • Columbia, MD 21044 • Tel. (410) 992-0712 www.centerforhealthyhousing.org

With thanks to

## $N \cdot E \cdot E \cdot T \cdot F$

We credit its Environmental Management of Pediatric Asthma: Guidelines for Health Care Providers and model Pediatric Environmental History Form



The Center for Healthy Homes and Neighborhoods at Boston University
We credit its model Pediatric Asthma-Allergy Home Assessment form

## Pediatric Environmental Home Assessment

HOME VISIT EXERCISE ANSWER SHEET

### RESIDENT REPORTED INFORMATION

**Bolded** responses indicate areas of greater concern.

Gene	eral Housing Charac	teristics			
Туре	of ownership	☐ Own house	☐ Market rate rental hsg.	X Subsidized rental hsg.	☐ Shelter
Age	of home	☐ Pre-1950	X 1950 -1978	☐ Post-1978	☐ Don't know
Struc	tural foundation	X Basement	☐ Slab on grade	□ Crawlspace	☐ Don't know
	rs lived in that apply)	□ Basement	☐ 1 <sup>st</sup>	X 2 <sup>nd</sup>	☐ 3 <sup>rd</sup> or higher
	Fuel used	☐ Natural gas / LPG	X Oil	□ Electric	□ Wood
Heating	Sources in home	X Radiators	☐ Forced hot air vents	☐ Space heater or oven	☐ Other:
Hea	Filters changed	□Yes	□No	X Don't know	X No filter
	Control	☐ Easy to control heat	X Hard to control heat		
Cool	ing	☐ Windows	X Central/window AC	□ Fans	□ None
	lation all that apply)	X Opens windows	☐ Kitchen & bathroom fans	☐ Central ventilation	

NOTES: PARENT REPORTS BIGGEST CONCERNS ARE DUST AND MICE

Indoo	Pollutants				
Mold a	and moisture	☐ Uses dehumidifier☐ No damage	X Uses vaporizer or humidifier	☐ Musty odor evident	X Visible water / mold damage
	Presence	X No pets	□ Cat #	□ Dog #	Other:
Pet	Management	☐ Kept strictly outdoors	☐ Not allowed in patient's bedroom	☐ Full access in home	☐ Sleeping location:
	Cockroaches	□ None	☐ Family reports	X Evidence seen	Present in X kitchen X bedroom D other
Pests	Mice	□ None	X Family reports	X Evidence seen	Present in X kitchen ☐ bedroom X other
Pe	Rats	<b>X</b> None	☐ Family reports	☐ Evidence seen	Present in ☐ kitchen☐ bedroom ☐ other
	Bedbugs	<b>X</b> None	☐ Family reports	☐ Evidence seen	Present in ☐ bedroom ☐ other
Lead	paint hazards	☐ Tested and passed	☐ Tested, failed, and mitigated	☐ Not tested/Don't know	X Loose, peeling, or chipping, paint
Asbes	tos	☐ Tested – None present	☐ Tested, failed, and mitigated	X Not tested/Don't know	X Damaged material
Rador	l	☐ Tested and passed	☐ Tested, failed, and mitigated	X Not tested/Don't know	☐ Failed test but not mitigated
Health	and Safety Alarms	X Smoke alarm working and well placed	☐ CO alarm working and one on each floor	□ CO alarm does not log peak level	☐ No smoke alarm X No CO alarm
	co smoke exposure NOTES	X No smoking allowed	☐ Smoking only allowed outdoors	☐ Smoking allowed indoors ☐ bedroom ☐ playroom	☐ Total # smokers in household: ☐ Mother smokes
Other	irritants	<b>X</b> None	☐ Air fresheners	□ Potpourri, incense, candles	Other strong odors:
	of cleaning	☐ Standard Vacuum (non HEPA)	X HEPA vacuum	☐ Damp mop and damp dusting	☐ Sweep or dry mop

NOTES: HOUSEHOLD IS NON-SMOKING BUT EXPOSED TO SMOKE FROM APT. BELOW; NEED TO RE-SEAL FOR MICE;

### HAS SMOKE ALARM BUT NOT CO ALARM. MAY HAVE LEAD PAINT AND REPAIRS TO IT APPEAR TO HAVE FAILED

### NURSE OBSERVED INFORMATION

**Bolded** responses indicate areas of greater concern.

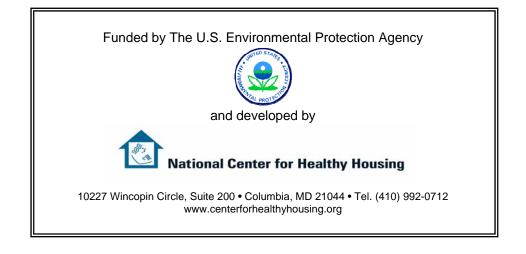
Home Env	vironment				
Drinking \	Water Source	X Public water system	☐ Household Well		
Kitchen	Cleanliness	□ No soiling	☐ Trash or garbage sealed	X Trash or garbage not sealed	☐ Wall/ceiling/floor damage
Kitc	Ventilation	☐ Functioning stove exhaust fan/vent	☐ Mold growth present	☐ Broken stove exhaust fan/vent	X No stove exhaust fan/vent
Bathroom	1	X Functioning exhaust fan/vent/window	☐ Mold growth present	☐ Needs cleaning and maintenance	☐ Wall/ceiling/floor damage
Basemen	t	□ None/No Access	☐ Mold growth present		
Living Ro	om	X No soiling	☐ Mold growth present	■ Needs cleaning and maintenance	☐ Wall/ceiling/floor damage
Laundry a	area	X None	☐ Well maintained	☐ Dryer not vented	☐ Hang clothes to dry
Sleep Env	vironment				
Patient's	sleep area	X Own room	☐ Shared # in room	☐ Other	
# Beds		<b>0</b> 0	<b>X</b> 1	<b>□</b> 2	☐ More than 2
Allergen impermea encasings	able s on beds	☐ On mattress and boxspring (zippered)	X On mattress only (zippered)	☐ On mattress (not zippered)	□ No mattress covers
Pillows		X Allergen-proof	☐ Washable	☐ Feather/ down	
Bedding		X Washable	☐ Wool/not washable	☐ Feather/ down	
Flooring		X Hardwood/Tile/Linoleum	X Small area rug	☐ Large area rug	☐ Wall-to-wall carpet
Dust/mole	d catchers	X Stuffed animals/washable toys X No clutter	□ Non-washable toys	□ Plants	□ Other
Window		X Washable shades/ curtains	X Washable blinds	☐ Curtains/ drapes	□ No window/ poor ventilation
Other irrit	tants	☐ Abundant cosmetics and fragrances			

Home Safety				
* can indicate housing code violations				
General				
Active renovation or remodeling	X Yes IN NEIGHBORHOOD	□ No		
*Stairs, protective walls, railings, porches	X Yes	□ No		
*Hallway lighting	X Adequate	☐ Inadequate		
Poison control number	☐ Posted by phone	X Not posted by phone		
**Family fire escape plan	☐ Developed and have copy available	X None		
Electrical appliances (radio, hair dryer, space heater)	☐ Not used near water	X Used near water BATHROOM		
Matches and lighters stored	X Out of child's reach	☐ Within child's reach		
Exterior environment	☐ Well maintained	X Abundant trash and debris	☐ Chipping, peeling paint	☐ Broken window(s)

### **NURSE OBSERVED INFORMATION (continued)**

Home Safety * can indicate housing code violations			
Young Children Present	X Yes	□ No	
Coffee, hot liquids, and foods	☐ Out of child's reach	X Within child's reach	
Cleaning supplies stored	☐ Out of child's reach	X Within child's reach	
Medicine and vitamins stored	☐ Out of child's reach	X Within child's reach	
Child (less than six years old) been tested for lead poisoning	☐ Within past 6 months Result:	X Within past year or more. When? <1 year Result: <10	□ No
Child watched by an adult while in the tub	☐ Always	X Most of the time	□ No
*Home's hot water temperature	□ <120 F	□ >120 F	X Don't know
Non-accordion toddler gates used	☐ At top of stairs	☐ At bottom of stairs	□ No
Crib mattress	☐ Fits well	□ Loose	X NA
Window guards	□Yes	X No	
Window blind cords	□ Split cord	X Looped cord	

NOTES: LOTS OF DUST FROM NEIGHBORHOOD CONSTRUCTION; HAS WINDOWS CLOSED AND A/C ON BUT STILL A PROBLEM; LOTS OFEXPOSED DIRT OUTSIDE DUE TO CONSTRUCTION; CABINET WITH CLEANING SUPPLIES IS NOT LOCKED AND IS AT CHILD LEVEL



### With thanks to

N • E ▲ E • T • F

The National Environmental Education & Training Foundation

We credit its Environmental Management of Pediatric Asthma: Guidelines for Health Care Providers and model Pediatric Environmental History Form

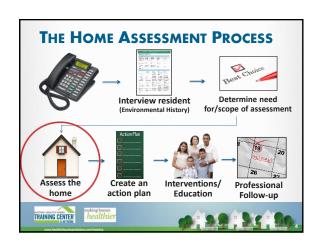


The Center for Healthy Homes and Neighborhoods at Boston University
We credit its model Pediatric Asthma-Allergy Home Assessment form

# MODULE 2: HOME ASSESSMENT Healthy Housing Solutions \*\*C.\*\*

## Practice identifying health-related hazards based on the 8 Principles/Keep-its. Explain practical techniques for conducting home assessments. Correctly fill out assessment tool in the field. Conduct an onsite assessment.

## SELF ASSESSMENT MODULE 2 - HOME ASSESSMENT • Explain the difference between a deficiency-based and solutions-based assessment checklist. • Name the 2 key characteristics of an assessment checklist. • List 4 steps to approaching a home assessment. • Name the 3 most problematic pests • Name the 3 mechanical systems that are key to keeping it climate-controlled.



## PLAN YOUR APPROACH Now THAT YOU'VE: Interviewed the resident Completed an environmental history Determined that a home assessment is appropriate What do you need to do next, before actually conducting the assessment?



## **HOME ASSESSMENT INSPECTIONS: SURVEY FIRST, THEN INSPECT** 1. Survey outside 2. Survey inside 3. Inspect outside

TRAINING CENTER healthier

4. Inspect inside



### JUST HAVE A SYSTEM!

- If you are consistent in your approach, you'll be less likely to miss something.
- You may even have a standard system within a room.







## **INDIVIDUAL EXERCISE (5): IDENTIFY HAZARDS**

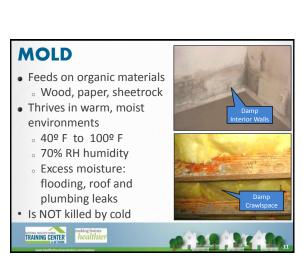
- View these slides related to 8 Keep-Its.
- Identify and record deficiencies related to each numbered (purple) image.
- For each deficiency, work with a teammate and suggest a corresponding solution.
- Add any notes or additional info to gather during inspection

and the second	
NATIONAL HEALTS	TY HONES
ITRAINING	CENTER
HOMITHIA	CHITCH





## Common Sources of Water & Moisture Problems • Ground Water Intrusion: basements, crawl spaces, slab on grade foundations • Roof and building envelope leaks • Ice dams • Plumbing leaks • Condensation in wall, floor and ceiling cavities • Moisture generated by residents, day-to-day activities • Others?









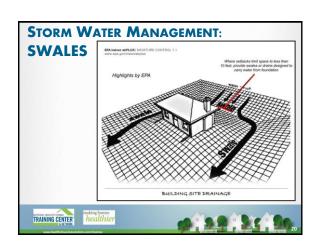




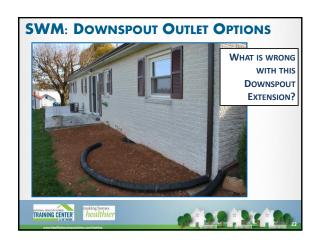




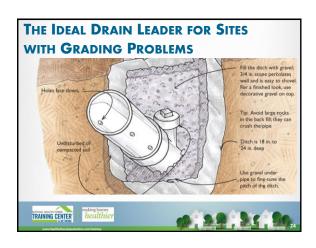




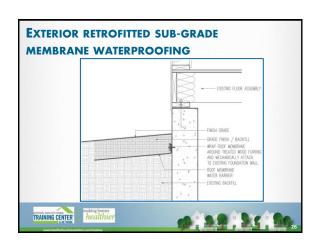




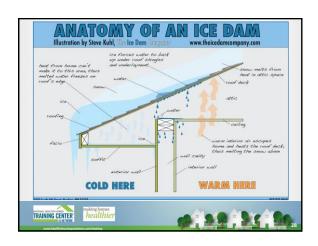




# SWM: DRAIN LEADER • AKA: French Drain • Purpose: Move water away from house to point where it can safely percolate into soil Downspout Connection Surface Drain Surface Drain Downspout Connection Surface Drain French Downspout Connection Surface Drain

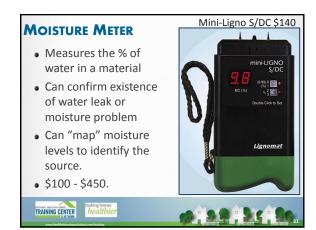




























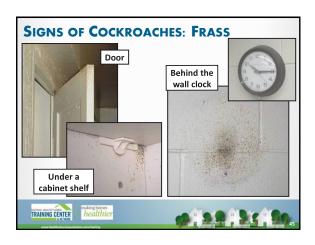




























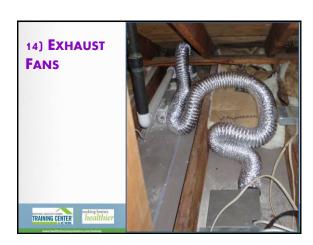


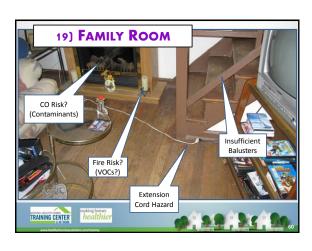


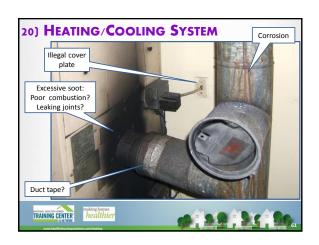
TABLE 7.1 PR	SCRIPTIVI			JIREMENTS	G (FROM AS			
Duct Type		Flex	Duct			Smooti	n Duct	
Fan Rating (cfm at 0.25 in. w.g.)	50	80	100	125	50	80	100	125
			Maxim	um Allowab	le Duct Len	gth (ft)		
Diameter, (in)		Flex	Duct		Smooth Duct			
3	3 X X X		Х	5	*	Х	Х	
4	70	(3)	Х	Х	105	(35)	5	Х
5	NL	70	35	20	NL	135	85	55
6	NL	NL	125	95	NL	NL	NL	145
7 and above	NL	NL	NL	NL	NL	NL	NL	NL
This table assum extrapolation in T applicable for fan NL = no limit on o X = not allowed, (0.25 in w.g.). Note: water gaug	able 7.1 is no ratings > 12 fuct length of any length of	ot allowed. F 5 cfm. this size. duct of this	or fan rating	values not lis	ted, use the	next higher va	alue. This tal	ble is not

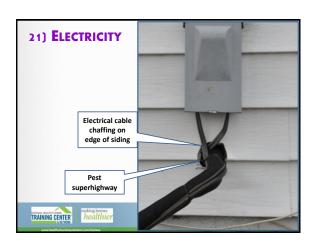


















## Void installing products with formaldehyde Vise lead-safe work practices (LBP testing) Know how to recognize and handle asbestos Clean: Remove contaminants in household BELOW GOL Acet CArmand C Magnelli, Livable Housing, Inc.



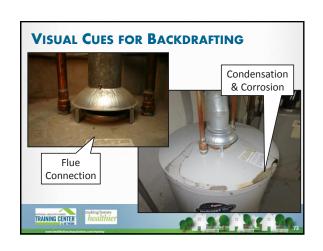




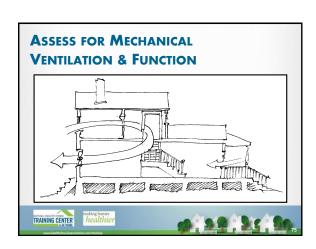


















Year House Was Built	Percent of Houses with Lead-Based Paint
Before 1940	87 percent
1940-1959	69 percent
1960-1978	24 percent
All US Housing Stock	40 percent





# HEATING SYSTEMS • Fuel • Gas (natural or LP), oil, wood, coal • Electric • Distribution • Hot water, steam, warm air • Radiators, baseboard, ducts, space heaters • Radiant floors and ceilings • Chimneys, sealed combustion, fan powered • Temperature Controls

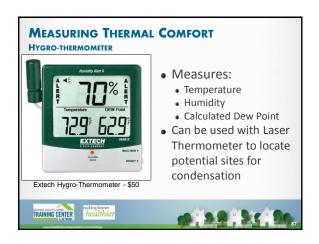
TRAINING CENTER healthier





# These Systems Must Work-Together Combustion Appliances Heating systems Water heaters Gas range Exhaust Fans & Clothes Dryers Building Shell features Type and quality of construction Insulation & air sealing Fenestration: Windows, doors, skylights Occupants





# PREPARING FOR SUCCESS

Lets prep for an inspection with the goal of developing a Scope of Work

- Checklist check-up, comparing Deficiencybased and Solutions-based
- Practicing use of the Checklist
- What to bring for the inspection
- What's your role







## **DEFICIENCY-BASED CHECKLISTS**

- Used to document existing conditions
- May help to prioritize the health risks
- Focused on itemizing the health and safety issues
- See the samples in your manual









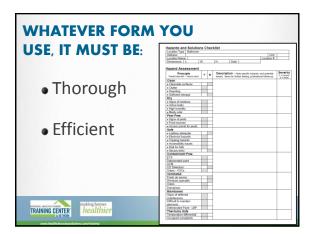


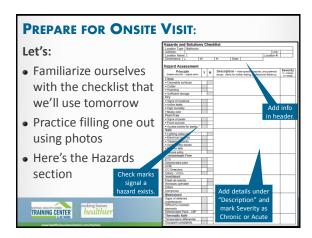
## **SOLUTIONS-BASED CHECKLISTS**

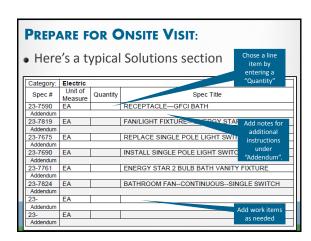
- Identifies specific work items to address deficiencie
- Ideally quantifies the work using units of measurement
- Allows for recording special notes
- Records the information necessary for a scope of work

work	ı y	101	as	сор	
TRAINING CENTER		king hom realth			

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0	himney			
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	7 - 1540	_	£A.	CHMWEYCAP
	nof .			
	15 - 4490		56	ROOF SHEATHING 1/2"
	15 - 4500		50	TEAR OFF AND REROOF SHINGLES
	15 - 4710		U	VENT-ALUMINUM RIDGE
	15 - 4548		50	MODIFIED BITUMEN RE-ROOF
	15 - 4755	_	UF	ROOF PLASHING-REPAIR
	15 - 4755	_	UF	RESCHA L'ALS"
	15 - 4760			
6	utters & Do	111224	·	
	15 - 4555		12	GUTTER-INSTALL-5" SSAWLESS ALLWANDM
	15 - 4638		LF.	DOWNSPOUT-283" ALUMINUM
	15 - 4540		LF	DOWNSPOUT-INT ALUMINUM
	15 - 4505	_	EA.	SPLASH BLOCK
	ebrug.	_		
	10 - 2565		w	SIDING-CLAPBOARD REPLACE
	10 - 2515		57	SIDING-CEDAR SHINGLE REPAIR
	30 - 2640		50	SOMO-VWIL
	10 - 2645		LF	TRIM-WRIF WITH YOU.
	30 - 2575		57	SIDING-ALUMINUM PERAIR
	30 - 2705		57	STUCCO-MATCH
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	7 - 1230		50	MASONRY-REPORT
	7 - 1255		50	BRICK WALL REPAIR
Dee		_		
Doo	20. 0000			DOOR-REWORK EXTERIOR
	30 - 9305		10	DOOR CASING-REPLACE
				DOOR -REPLACE ENTRANCE HARDWARE
				DODS-EXTERIOR PANELED
	30 - 3180	_	-	DODE-PREHING METAL ENTRANCE
	34 - 3162		-	DOG-THE-DISCHES THE DESCRIPTION OF THE DESCRIPTION
_				







# INDIVIDUAL EXERCISE (6): HAZARDS AND SOLUTIONS CHECKLIST



### First cut:

- View these slides and identify and record hazards/deficiencies related to each image on your Checklist
- We'll start by focusing on the hazards/deficiencies, and next work on solutions





# INDIVIDUAL EXERCISE (6): HAZARDS AND SOLUTIONS CHECKLIST



### Second cut

- View the slides again, and for each deficiency, identify a line item of work that would be a solution by entering a "Quantity"
- Next, work with a teammate and discuss your choices for solutions.
- Add any notes or additional info to gather during inspection

















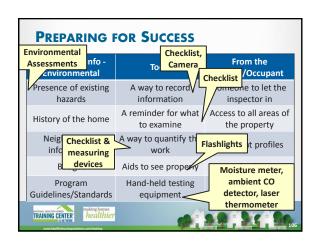


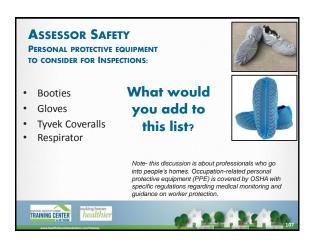


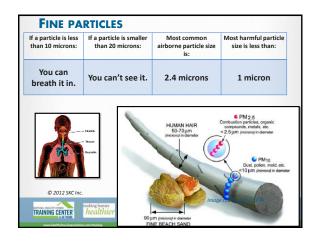




# SMALL GROUP EXERCISE (7): PREPARING FOR SUCCESS • Work in small groups. • List EVERYTHING you can think of that the inspector needs for a successful assessment. • Tools • Information about the building • Information about/from the resident or owner







# Minimum protection if high concentrations of unknown particles are observed Dust, mold, and smoke are made up of particles. First line of defense for protection is a NIOSH approved N-95 rated respirator. Particle respirators do not provide any protection from carbon monoxide or other toxic gases! Respirators are only a part of personal protective equipment (PPE). Note-this discussion is about professionals who go into people's homes. Occupation-related personal protective equipment (PPE) is covered by OSHA with specific regulations regarding medical monitoring and guidance on worker protection.



### RESPIRATOR RATING CLASS **Respirator Rating Number Class Respirator Rating** • 95 - Removes 95% of all **Letter Class** particles 0.3 microns in N - Not oil diameter resistant • 99 - Removes 99% of particles • R - Resistant to 0.3 microns in diameter oil • 100 - Removes 99.97% of all • P - Oil Proof particles 0.3 microns in diameter or larger. HE or HEPA quality filter. TRAINING CENTER

### **ASSESSOR HAZARDS & PRECAUTIONS: BE AWARE OF** · Significant structural defects and physical hazards Improperly stored and Can you ask uncharacterized chemicals and for a hazard pesticides to be · Visible and significant biological removed? Contamination • Fire and improperly stored combustible materials TRAINING CENTER





# THE ON-SITE VISIT • Work in pairs or groups • Rotate through house • Use the four Hazards & Solutions Checklists • Kitchen, Bath, Generic Interior Room, Exterior • Use PEHA Environmental Home Assessment for the resident interview • Timing • Treat the resident's property with respect

# Module 2 – Home Assessment Exercise 5: Identify Hazards

Photo	Deficiency	Solution	Notes
1			
2			
3			
4			

Photo	Deficiency	Solution	Notes
5			
6			
7			
8			

Photo	Deficiency	Solution	Notes
9			
10			
11			
12			

Photo	Deficiency	Solution	Notes
13			
14			
15			
16			

Photo	Deficiency	Solution	Notes
17			
18			



Safe & Healthy Home Environment	tal Assessment
EHA ID #:	
Contact:	
Site Address:	
Contact Phone:	
Date of Site Visit:	
	Date
	-
	Date

# Understanding Your Safe & Healthy Home Report

This report represents the results of a safe and healthy home assessment recently performed at your home. The report includes a general evaluation of the building and the mechanical components in the building along with an assessment of the appliances in your home. Another section of the assessment provides a room by room evaluation of common healthy home issues that can affect the indoor air and environment quality of a home. This assessment shows what issues, if any, were observed and what you should consider changing about your home to improve indoor environmental quality and make your home the healthiest it can be.

This report may include a list of extreme risk and high risk hazards identified during the assessment. Extreme Risk hazards are those hazards that represent an immediate threat to health and safety and need to be addressed as soon as possible. High Risk hazards are those hazards that may results in health problems or contribute to health symptoms and need to be addressed as can be reasonably done. Your assessment professional can help you identify the issues identified in your home during the home assessment and what specific actions can be taken to resolve the issue identified. In order to make your home the healthiest it can be, we recommend you take these actions quickly to reduce or eliminate the issues identified.

It is possible that many issues were identified during your home assessment. The Safe and Healthy Home Program will try to help you address many of the issues identified and can provide you with the names of community organizations that may have funding that you can apply for to help cover the cost of repairing some of the healthy home issues identified in this report. If you have any questions regarding this home assessment report, or about the Safe and Healthy Home Program, or want help working with community organizations to get help with healthy home issues, please contact us at anytime at 816-960-8918.

## How to Read the Home Assessment Scores in this Report

For the building, mechanical and appliance pages, each component is assessed separately with a series of statements about the condition of that component. For the room assessments, each room is evaluated using 5 healthy home categories. Each item that is part of a component or room category is rated and scored by the assessment professional. If an item looks "OK-Good" or normal, it receives a score of 100 points, if an item is a "Concern", it receives a score of 50 points, if an item is rated as "Take Action", it received 0 points. The assessment score for each component or room category is then an average score of these different items assessed. For example, the air flow and circulation score for the living room is an average score based on 5 different assessment parts.

category is then given its safe and healthy home assessment rating based on the following guidelines: If an item looks "OK-Good" or normal, it received an 85 - 100 points -OK- Good average score for all the items assessed of 85 points or higher. If an item is a "Concern", it received an average score 70 - 85 points -Concern between 70 to 85 points and means there were enough concerns about a particular home component or room, that it should be changed to help improve the indoor environment of the home. If an item is rated as "Take Action", it received an average < 70 points -Take Action score of 70 points or lower. These components or rooms had enough problems with them that we believe they need

indoor environmental health.

The assessment score for each component or room

to be changed as soon as possible to improve your home's

Finally, at the bottom of each room page is the Home Assessment Room Score which is the average score for all 5 of the healthy home categories used to assess a specific room. The higher your room assessment score is the "healthier the room is. The goal of this assessment is to help you make these scores as high as possible.

aithy nome Assess	Date of Site Visit:
Name:	Phone(s):
ddress:	
Front of House	
Compass	
Direction	
eneral Description of t	<u>he Site</u>
Primary Ground Cover:	Grass Dirt Gravel Concrete Other
econdary Ground Cover:	Grass Dirt Gravel Concrete Other
Drainage: Away from	m Found. Toward Found. F to R R to F L to R R to L
arby Pollution Sources	
	Busy Street Highways Interstate H. Way Railroad Other
within 0.25 mi.	Factory Industrial Powerplant Retail Retail Other
eneral Description of t	:he Building
Building Location:	Urban Suburban Rural Other
Building Type:	House Duplex Triplex Townhome Other:
Approximate Age:	Unknown Before 1940 1940-1959 1960-1977 After 1978
Building Are	
Total Number	of Windows: Total Number of Entry Doors:
Outside Weather Condition	
Home Assessor Name(s):	

2.0 Building Assessment:			EHA ID #	:		Date of Si	te Visit:		
	OK-	Concern	Take	Not	НН		# of Healt	h/Safety	Hazards
Roof Type:	Good	Concern	Action	Applic.	Score	Comments	*Note moisture meter readings	Chronic	Acute
Surface intact									
Any occupant reported/visible leaks									
Any evidence of water damage								- ——	
Drip edge condition								- ——	
Flashing condition Chimney flashing condition				-		-		- —	
Ventilation present									
ventilation present	100	50	0	Score:	.	-	# Identified	4.	
Futonian Cidina Ton					'Ш	0			1
Exterior Siding Type:	OK	С	TA	NA		Comments	*Note moisture meter readings	Chronic	Acute
Surface condition								- ——	
Any flaking paint Any leaking/Moisture retention						-		- ——	
Weatherized w/ no visible gaps								- —	
Weatherized W/ No visible gaps	100	50	0	Score:	$\vdash$		# Identified	d.	
Cuttoring	OK	С	TA	NA		Comments	*Note moisture meter readings		Acute
Guttering Properly attached and sealed	UK	C	IA	IVA		Comments	Note moisture meter readings	CHIONIC	Acute
Any flaking paint									
Any leaking/Moisture retention								- —	
Downspouts condition								- —	
Splash block/tile condition				-		-			
·	100	50	0	Score:			# Identified	d:	
Foundation Type:	OK	С	TA	NA		Comments	*Note moisture meter readings		Acute
Any visible cracks	•	_					Ç .		
Any reported/visible leaks						-			
Weatherized w/ no visible gaps									
Any flaking paint on wall surface									
Crawlspace open to living space?									
	100	50	0	Score:			# Identified	:c	
Exterior Doors Total #:	Т	ype(s):						Chronic	Acute
	OK	C _	TA	NA		Comments	*Note moisture meter readings		
Surface condition	OK	O	173	INA		Comments	note meletal e meter readinge		
Any flaking paint								- —	
Any leaking/Moisture retention								- —	
Weatherized / No visible gaps									
	100	50	0	Score:			# Identified	d:	
Exterior Windows Total #:	T	ype(s):						Chronic	Acute
	OK	С	TA	NA		Comments	*Note moisture meter readings		
Surface condition									
Any flaking paint									
Any leaking/Moisture retention				-				- —	
Weatherized / No visible gaps	100				$\vdash$			- —	
	100	50	0	Score:			# Identified	:t	
Stairs/Steps	OK	С	TA	NA		Comments	*Note moisture meter readings	Chronic	Acute
Surface condition									
Any flaking paint									
Outside stairs condition									
Handrails Present (>3 steps)									
	100	50	0	Score:			# Identified	:b	
Electrical Service	OK	С	TA	NA		Comments	*Note moisture meter readings	Chronic	Acute
open service panels?		-					Ç		
Main panel covered/attached properly	,					-			
Any exposed wiring?									
	100	50	0	Score:			# Identified	d:	7
							Total Hazards Identified	₁.	一
							i otai i iazai us luciltillet	4 - J	1

2.0 Mechanical Assessment	: E	EHA ID #:		ı	Date of Si	te Visit	:			# of Healt	h/Safet	y Hazards
Heating System Type:  Main box intact Exhaust properly attached & sealed Exhaust system works (neg. flow)		OK	С	TA	NA		Comme	ents			Chronic	Acute
Any dust covered components Returns properly attached and s Supplies properly attached and Any suspect material Filter properly seated and seale	sealed sealed											
Correct filter size Pleated filter in use(min. MERV= Filter condition Filter changed quarterly (min)	=8)	·										
Furnace Filter Size X		100	50	0	Score:					# Identified	:	
System Humidifier Properly attached & sealed Any reported/visible leaks		OK	С	TA	NA		Comme	ents			Chronic	Acute
Any suspect mold visible Water supply line connected con Evaporator Condition	rrectly											
Evaporator Condition		100	50	0	Score:		-			# Identified	:	
Central Air Any reported/visible leaks		OK	С	TA	NA		Comme	ents			Chronic	Acute
Condition of coolant line Condensate hose extends into d	rain											
		100	50	0	Score:					# Identified	:	
Water Heater Type: Any reported/visible leaks Condition of pressure relief valv	/e	_ OK	C	TA	NA ———		Comme	ents			Chronic	Acute
Water temp setting <u>L</u> ow Steel or brass gas line Exhaust attached properly	Med.											<u> </u>
Exhaust system works (neg. flow	v)	100	50	0	Score:					# Identified	:	
Home Plumbing Main	OK	Supply	TA	NA		OK	Waste C	TA	NA		Chronic	Acute
Any reported/visible leaks Line/Pipe condition Operating properly	UK	C	1A 									
Fixture Condition <u>Kitchen Sink</u>	100	50	0	Score:		100	50	0	Score:			
Any reported/visible leaks _ Line/Pipe condition _ Operating properly _ Fixture Condition											<u></u>	<u> </u>
Tub/Shower  Any reported/visible leaks	100	50	0	Score:		100	50	0	Score:			
Line/Pipe condition Operating properly												
Fixture Condition  E Toilet	100	50	0	Score:		100	50	0	Score:			
Any reported/visible leaks Line/Pipe condition Operating properly											<u> </u>	<u>=</u>
Fixture Condition	100	50	0	Score:		100	50	0	Score:			
Any reported/visible leaks Line/Pipe condition Operating properly Fixture Condition											<u></u>	=
TIXTUIC CONDITION	100	50	0	Score:		100	50	0	Score:	# Identified	:	
	Plui	mbing S	upply	Score:		Plu	mbing	Waste	Score:			
								To	otal Haz	ards Identified	:[]	

2.0 Appliance Assessment:	E	:HA ID #:		Date of	Site Visit	: # of Hea	alth/Safe	ty Hazaro
Stove Type:	OK	С	TA	NA	Score	Comments	Chronic	Acute
Burners/oven operating properly		<u> </u>						
Gas stoves - Any CO detected								
Steel or brass gas line		· —— ·						
Working exhaust system Exhausted to outside		<del></del> -				-		
Cord condition		<del></del> -						
oord condition	100	50	0	Score:		# Identified	. 🗀	
Dofrigorator	OK	С	TA	NA		Comments	. Chronic	
Refrigerator Unit clear of dust and debris	UK	C	IA	IVA		Comments	CHIOHIC	
Pre-1980: Evaporation pan in place								
TTO 1700.Evaporation pair in place	100	50	0	Score:		# Identified	. 🗀	
Washer	OK	С	TA	NA		Comments	Chronic	
Water draining properly	OK	O	17	14/1		Comments		
Any reported/visible water leaks								
Cord condition				-				
	100	50	0	Score:		# Identified	:	
<u>Dryer</u> Type:	OK	С	TA	NA		Comments	Chronic	Acute
Steel or brass gas line								
Dryer ducting condition								
Dryer duct exhausts to outside								
Cord condition								
	100	50	0	Score:		# Identified	:	
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	01/	Unit 1	Τ.			Unit 2		Chronio
Window AC	OK	С	TA	NA		OK C TA NA		Chronic
Operating correctly								
Any reported/visible water leaks Cord condition								
Filter condition								
Tilted to drain outside				-				
Evaporator pan drain working				-				
	100	50	0	Score:		100 50 0 Score: # lo	dentified	
Air Cleaner	OK	С	TA	NA		Comments	Chronic	
Condition of air cleaner	OIC	J	.,,	1471		Odifficities		
Appropriate size for location				- ——				
Allergen filtration present								
Filter condition								
Any Electronic Observed								
	100	50	0	Score:		# Identified	:	
<u>Humidifier</u>	OK	С	TA	NA		Comments	Chronic	
Condition of humidifier								
Hot water/steam type humidifier								
Rinsed, water changed daily Disinfected weekly (minimum)								
Distillected weekly (Illillillidill)	100	50	0	Coro		# Identified	. —	
Portable Fans	OK	C	TA	Score: NA		Comments # Identified	 Chronic	
Portable Fans Operational	UK	C	IA	IVA		Comments	Cilionic	
Any accumulated dust on blades				·		-		
Blade protection in place								
Cord condition				-				
	100	50	0	Score:		# Identified	:	
Space Heaters	OK	С	TA	NA		Comments	Chronic	Acute
Any unvented fuel heaters								
Tilt safety shut-off switch								
Cord condition								
	100	50	0	Score:		# Identified	:	
Safety Equipment	OK	С	TA	NA		Comments	Chronic	Acute
Working smoke detectors						Battery Check: Pass Fail		
Working CO detectors						Battery Check: Pass Fail		
Kitchen fire extinguisher					$\square$			
Handrails on inside stairs with >3 steps					$\square$			
	100	50	0	Score:		# Identified		
						Total Hazards Identified	:	

3.0 EHA Room Survey: Child's	Bedi	room		I	EHA ID #:	#: Date of Site Visit:			
	OK-		Take	Not	нн -		# of Health	/Safety I	Hazards
Air Flow and Circulation Working supply vent Supply vent condition If return vent present - working	Good	Concern	Action	Applic.	Score	Description		Chronic	Acute
Return vent(s) Condition Room under (+) pressure									
*Note airflow readings	100	50	0	Score:			# Identified:		
Allergens & Dust  Any excessive visible dust Any carpeting present Carpet condition Any upholstered furniture Upholstered furniture condition Mattress condition	OK	C	TA	NA		Description		Chronic	Acute
Bedding condition Any stuffed toys/animals present Any cloth window coverings Any furry/feathered pets in room Any clutter Any reported/visible evid. of rodents Any reported/visible evid. of insects Any trash/debris on surfaces									<u> </u>
-	100	50	0	Score:		-	# Identified:		
Moisture Control Any damp smell Any visible moisture stains	OK	C	TA	NA ———		Description	MM Read	Chronic	Acute
If present, visible moisture ranking:						*Note any mo	sture meter readings		
Area affected:			total sq	ft.					
Any suspect visible mold									
Visible mold ranking:  0 <10 >10  Area affected:  100 50 0	100	50	total sq.						
				Score:			# Identified:		
Chemical Exposure Any smoking allowed in room Any chemical odors Any air fresheners Any candles or incense	OK	C	TA	NA 		Description		Chronic	Acute
Any reported/visible chemical supplies Any flaking paint on any surface									
Flaking Paint Ranking:  0 <1 >1	100	50	0						
Area affected: 100 50 0			total sq	ft. Score:			# Identified:		
Safety & Injury Prevention Smoke detector in /near room CO detector near room	OK	C	TA	NA ——		Description		Chronic	Acute
Any overloaded/small gauge ext. cords						-			
If windows present-operational Any slip/trip/fall hazards									
Small Children (<7 yrs old): Receptacle plug covers Any blind (curtain cords w/in reach									
Any blind/curtain cords w/in reach Window guards (2nd Floor) present Chemicals stored in locked cabinets									
Medicines stored in locked cabinets									
Home A	100	50 Sment	0 Room	Score:	==	Total Haza	# Identified: rds Identified:		
noine <i>F</i>	いつつこうご	ornelit.	NUUIII	ひしい せ.	1	i ulai naza	i us iuciiliiiliilii.	1	1 1

3.0 EHA Room Survey: Master	r Bed	room		1	EHA ID #:	#: Date of Site Visit:			
	OK-		Take	Not	нн -		# of Health	/Safety I	Hazards
Air Flow and Circulation Working supply vent Supply vent condition If return vent present - working	Good	Concern	Action	Applic.	Score	Description		Chronic	Acute
Return vent(s) Condition Room under (+) pressure		-							
*Anyte airflow readings	100	50	0	Score:			# Identified:		
Allergens & Dust  Any excessive visible dust Any carpeting present Carpet condition Any upholstered furniture Upholstered furniture condition Mattress condition	OK	C	TA	NA 		Description		Chronic	Acute
Bedding condition Any stuffed toys/animals present Any cloth window coverings Any furry/feathered pets in room Any clutter Any reported/visible evid. of rodents Any reported/visible evid. of insects Any trash/debris on surfaces									<u>=</u>
-	100	50	0	Score:			# Identified:		
Moisture Control  Any damp smell  Any visible moisture stains	OK	C	TA	NA ———		Description	MM Read	Chronic	Acute
If present, visible moisture ranking:  0 <10 >10  Area affected:  Any reported/visible window leaks  Any room humidifier  Any mold smell			total sq.	ft.		*Note any mo	isture meter readings		
Any suspect visible mold Visible mold ranking:	100	50	0						
0 <10 >10  Area affected: 100 50 0			total sq.	ft. Score:			# Identified:		
Chemical Exposure	OK	С	TA	NA		Description	# Identified.	Chronic	Acute
Any smoking allowed in room Any chemical odors Any air fresheners Any candles or incense								<u> </u>	
Any reported/visible chemical supplies Any flaking paint on any surface									
Flaking Paint Ranking:  0 <1 >1	100	50	0						
Area affected: 50 0			total sq.	ft. Score:			# Identified:		
Safety & Injury Prevention Smoke detector in /near room	OK	C	TA	NA		Description		Chronic	Acute
CO detector near room Any overloaded/small gauge ext. cords									
If windows present-operational Any slip/trip/fall hazards Small Children (<7 yrs old):									
Receptacle plug covers Any blind/curtain cords w/in reach									
Window guards (2nd Floor) present Chemicals stored in locked cabinets	-								
Medicines stored in locked cabinets	100	50	0	Score:			# Identified:		
Home A						Total Haza	rds Identified:		

3.0 EHA Room Survey: Family	//Livi	ng Roo	om		EHA ID #:	Date of	Site Visit:		
<u> </u>	OK-		Take	Not	HH -		# of Health/	/Safety F	Hazards
Air Flow and Circulation  Working supply vent Supply vent condition If return vent present - working	Good	Concern	Action	Applic.	Score	Description		Chronic	
Return vent (s) Condition Room under (+) pressure									
*Anyte airflow readings	100	50	0	Score:			# Identified:		
Allergens & Dust	OK	С	TA	NA		Description		Chronic	Acute
Any excessive visible dust Any carpeting present Carpet condition Any upholstered furniture Upholstered furniture condition									
Mattress condition Bedding condition									
Any stuffed toys/animals present Any cloth window coverings Any furry/feathered pets in room									
Any clutter Any reported/visible evid. of rodents Any reported/visible evid. of insects									
Any trash/debris on surfaces		-				-			
	100	50	0	Score:			# Identified:		
Moisture Control  Any damp smell  Any visible moisture stains	OK	C	TA	NA		Description	MM Read	Chronic	Acute
If present, visible moisture ranking:  0 <10 >10						*Note any m	noisture meter readings		
Area affected:			total sq.	ft.					
Any mold smell Any suspect visible mold									
Visible mold ranking:  0 <10 >10	100	50	0	£1					
Area affected: 100 50 0			total sq.	Score:			# Identified:		
Chemical Exposure Any smoking allowed in room Any chemical odors	OK	C	TA	NA ———		Description		Chronic	Acute
Any air fresheners Any candles or incense Any reported/visible chemical supplies								_	
Any flaking paint on any surface Flaking Paint Ranking:	100	50	0						
0 <1 >1 Area affected: 100 50 0			total sq.				# Ideatified		
Safety & Injury Prevention Smoke detector in /near room	OK	С	TA	Score: NA		Description	# Identified:		Acute
CO detector near room Any overloaded/small gauge ext. cords If windows present-operational									
Any slip/trip/fall hazards Small Children (<7 yrs old): Receptacle plug covers									
Any blind/curtain cords w/in reach Window guards (2nd Floor) present									
Chemicals stored in locked cabinets  Medicines stored in locked cabinets		-				-			
_	100	50	0	Score:			# Identified:		
Home A	sses	sment	Room	Score:		Total Haz	ards Identified:		

3.0 EHA Room Survey: Kitch	en				EHA ID #:		Date of Site Visit:		
	OK-		Take	Not	НН		# of Health/	Safety I	Hazards
Air Flow and Circulation Working supply vent Supply vent open Supply vent unobstructed If return vent present - working Return vent(s) unobstructed	Good	Concern	Action	Applic.		Description		Chronic	
Exhaust fan present/operational Exhaust fan used during cooking Room under (-) pressure*		-							<u> </u>
*Note airflow readings	100	50	0	Score	:		# Identified:		
Allergens & Dust  Any visible dust  Any carpeting/upholstery present  Any cloth window coverings  Any furry/feathered pets in room  Any clutter  Bulk food in containers  Trash stored in container w/ lid  Any cracks/gaps around cabinets  Any reported/visible evid. of rodents  Any reported/visible evid. of insects	OK	C	TA	NA		Description		Chronic	Acute
Any trash/debris on surfaces									
Majatura Caratral	100	50	0	Score	:	Danadatian	# Identified:	Chronic	Acuto
Moisture Control  Any damp smell  Any visible moisture stains	OK	C	TA	NA ———		Description	MM Read		Acute
If present, visible moisture ranking:	-		· <del></del>			*	Note any moisture meter readings		
0 <10 >10 Area affected:			total sq.	ft					
Any reported/visible window leaks Any room humidifier									
Any mold smell									
Any suspect visible mold Visible mold ranking:  0 <10 >10	100	50	0						
Area affected: 100 50 0			total sq	. ft. Score			# Identified:		
Chemical Exposure  Any smoking allowed in room Any chemical odors Any air fresheners	OK	C	TA	NA		Description		Chronic	Acute
Any candles or incense Chemicals stored in orig. container Food stored away from chemicals Any flaking paint on any surface									
Flaking Paint Ranking:	100	50	0						
0 <1 >1 Area affected: 100 50 0			total sq	ft. Score			# Identified:		
Safety & Injury Prevention Smoke detector in /near room CO detector near room	OK	C	TA	NA		Description		Chronic	Acute
Fire extinguisher present & working Any overloaded/small gauge ext. cords If windows present-operational									<u> </u>
Chemicals stored in childproof cab. GFCI near water sources								<u> </u>	<u> </u>
Measured Water Temp. (deg. F) Any slip/trip/fall hazards Small Children (<7 yrs old):			·						
Receptacle plug covers Cabinet locks on doors		-	. ———						
Any blind/curtain cords w/in reach Medicines stored in locked cabinets			· ——						
modulation of the following state of the foll	100	50	0	Score	:		# Identified:		
Home	Αςςρς	sment	Room	Score		Tot	al Hazards Identified:		

3.0 EHA Room Survey: Bathro	3.0 EHA Room Survey: Bathroom EHA				EHA ID #:	HA ID #: Date of Site Visit:				
	OK-		Take	Not	НН		# of Health.	/Safety i	Hazards	
Air Flow and Circulation Working supply vent Supply vent open Supply vent unobstructed	Good	Concern	Action	Applic.		Description		Chronic	Acute	
If return vent present - working Return vent(s) unobstructed Exhaust fan present										
Exhaust fan used during/after showers Room under (-) pressure*										
*Note airflow readings	100	50	0	Score:			# Identified	:		
Allergens & Dust  Any visible dust  Any carpeting/upholstery present  Any cloth window coverings  Any furry/feathered pets in room  Any clutter  Trash stored in container w/ lid	OK	C	TA	NA 		Description		Chronic	Acute	
Any cracks/gaps around cabinets Any reported/visible evid. of rodents Any reported/visible evid. of insects Any trash/debris on surfaces										
	100	50	0	Score:			# Identified			
Moisture Control  Any damp smell	OK	C	TA	NA ——		Description	MM Read	Chronic	Acute	
Any visible moisture stains If present, visible moisture ranking:							*Note any moisture meter readings			
0 <10 >10 Area affected:			total sq	. ft.						
Any reported/visible window leaks Any mold smell Any suspect visible mold										
Visible mold ranking:  0 <10 >10  Area affected:	100	50	total sq.	ft						
100 50 0			total sq	Score:		-	# Identified	:		
Chemical Exposure Any smoking allowed in room Any chemical odors Any air fresheners	OK	C	TA	NA		Description		Chronic	Acute	
Any candles or incense Any reported/visible chemicals Chemicals stored in orig. container										
Any flaking paint on any surface Flaking Paint Ranking:	100	50	0							
0 <1 >1 Area affected: 100 50 0			total sq	. ft. Score:			# Identified			
Safety & Injury Prevention Smoke detector in /near room	OK	С	TA	NA		Description	# luentineu	Chronic	Acute	
CO detector near room Fire extinguisher present & working Any overloaded/small gauge ext. cords										
If windows present-operational Chemicals stored in childproof cab.										
GFCI near water sources  Measured Water Temp. (deg. F)  Any slip/trip/fall hazards										
Small Children (<7 yrs old): Receptacle plug covers Cabinet locks on doors										
Any blind/curtain cords w/in reach Medicines stored in locked cabinets										
	100	50	0	Score:		-	# Identified			
Home A	Assess	sment	Room	score:		To	tal Hazards Identified:	:1 1	. 1	

3.0 EHA Room Survey: Basei	ment				EHA ID #:	Date of Site Visit:			
<u> </u>	OK-		Taka	- Not	НН	#	of Health/Sa	fety F	lazards
Air Flow and Circulation Working supply vent	Good	Concern	Take Action	Not Applic.		Description		-	Acute
Supply vent open							<b>_</b>		
Supply vent unobstructed Any return vent(s) present		· -							
Any crawlspace open to room							<b>_</b> _		
Room under (-) pressure									
*Note airflow readings	100	50	0	Score	:	#	Identified:		
Allergens & Dust	OK	С	TA	NA		Description	Chi	ronic	Acute
Any visible dust									
Any carpeting/upholstery present									
Any cloth window coverings Any furry/feathered pets in room									
Any reported/visible evid. of rodents		·							
Any reported/visible evid. of insects									
Any clutter Bulk food in containers									
Trash stored in container w/ lid		· <del></del>							
Any trash/debris on surfaces									
	100	50	0	Score	:	#	Identified:		
Moisture Control	OK	С	TA	NA		Description	Chi	ronic	Acute
Any damp smell						<u>N</u>	MM Read		
Any visible moisture stains If present, visible moisture ranking:						*Note any moisture meter	r readings		
o <10 >10						Note any moisture meter	readings		
Area affected:			total sq	. ft.			<del>_</del>		
Any reported/visible window leaks							<b>_</b>		
Any visible cracks in floor & walls Any seepage / standing water			· ——				<b>_</b>		
Floor drain functioning properly									
Any mold smell									
Any suspect visible mold	400								
Visible mold ranking: 0 <10 >10	100	50	0						
Area affected:			total sq	. ft.					
100 50 0				Score	:	#	Identified:		
Chemical Exposure	OK	С	TA	NA		Description	Chi	ronic	Acute
Any smoking allowed in room							<b>_</b>		
Any chemical odors Any air fresheners		-					<del>_</del>		
Any candles or incense		· ·	-						
Chemicals stored in orig. container									
Food stored away from chemicals  Any flaking paint on any surface		· -							
Flaking Paint Ranking:	100	50	0						
Area affected: 0 <1 >1			total sa	f+					
100 50 0			total sq	Score:		#	Identified:	$\neg$	
Safety & Injury Prevention	OK	С	TA	NA	· <u> </u>	Description " '	<u> </u>	ronic	Acute
Smoke detector in /near room	UK	C	IA	IVA		Description	OIII	TOTAL	710010
CO detector near room									
Chemicals stored in childproof cab.  GFCI near water sources		· -					<b>_</b>		
Any overloaded/small gauge ext. cords	-						<del>_</del>		
Any open junction box/outlets									
If windows present-operational Any slip/trip/fall hazards							<b>_</b>	—	
Handrails on stairs							<del>_</del>		
Stair lighting Present/Operational									
Small Children (<7 yrs old):									
Receptacle plug covers Cabinet locks on doors		·					<del>_</del>		
Any blind/curtain cords w/in reach									
Medicines stored in locked cabinets				C =			Lile in tife:	———————————————————————————————————————	
	100	50	0	Score	-		Identified:	<b>—</b>	
Home	Asses	sment	Room	Score:	:	Total Hazards Ide	ntified:		

5.0 EHA Attached Structure Ass	sessm	ent			EHA ID #:	Date of Site Visit:		
Attached Garage	OK-		Take	Not	HH	# of Hea	alth/Safe	ty Hazar
Air Flow and Circulation  Any crawlspace open to room	Good	Concern	Action	Applic.	Score	Description	Chronic	Acute
Garage Door Condition Any openings to living space								
Any return vent(s) present Room under (-) pressure								
*Note airflow readings	100	50	0	Score:		# Identified	i:	
Allergens & Dust  Any reported/visible evidence of rodents Any reported/visible evidence of insects Any open/unused cardboard boxes	OK	C	TA	NA 	Score	Description	Chronic	Acute
Any trash/debris/clutter	100	50		Score:		# Identified	ı:	
Moisture Control	OK	С	TA	NA	Score	Description		Acute
Any damp smell Any visible moisture stains Any mold smell								
Any suspect visible mold Visible mold ranking:	100	50	0			*Note any moisture meter readings		
Area affected: 0 <10	>10		total so	q. ft.				
100 50	0		=	Score:		# Identified	i:	
Chemical Exposure  Any smoking allowed in room Any reported/observed idling venicles	OK	C	TA	NA	Score	Description	Chronic	Acute
Any chemical odors								
Chemicals stored in orig. container Any flaking paint on any surface								<u> </u>
	100	50	0	Score:		# Identified		
Safety & Injury Prevention Chemicals stored in childproof cab.	OK		TA	NA ——	Score	Description	Chronic	Acute
Any overloaded/small gauge ext. cords Fire Extinguisher present/working Adequate stairwell lighting								
Enclosed Porches/Decks	100	50	0	Score:		# Identified	i:	
Allergens & Dust Any reported/visible evid. of rodents	OK	C	TA	NA	Score	Description	Chronic	Acute
Any reported/visible evid. of insects Any open/unused cardboard boxes Any trash/debris/clutter								
ruly trustin debrish clutter	100	50	0	Score:		# Identified	i:	
Moisture Control Any visible moisture stains*	OK	C	TA	NA 	Score	Description	Chronic	Acute
Any Visible Leaks* Any mold smell Any suspect visible mold								
*Note any moisture meter readings	100	50	0	Score:		# Identified	l:	
<u>Chemical Exposure</u> Any smoking allowed on porch	OK	C	TA	NA	Score	Description	Chronic	Acute
Any chemical odors Chemicals stored in orig. container Any flaking paint on any surface								
Flaking Paint Ranking:	100	50	0					
Area affected:	>1		total so	q. ft. Score:		# Identified	1.	
Safety & Injury Prevention Any open junction box/outlets	OK	С	TA	NA	Score	Description # Identified		Acute
Any slip/trip/fall hazards Handrails on Stairs								
Stair lighting Present/Operational	100	50		Score:	$\vdash$	# Identified	ı:	
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6.0 Environmental Measurements: EHA#	Date of Site Visit:
Exhaust Vents	Dath Enhanced 1
Kitchen Exhaust 1 Exhaust test Method Paper check	Bath Exhaust 1  Exhaust test Method Paper check
Pass Fail Vapor/smoke	Pass Fail Vapor/smoke
Manometer cfm	
Kitchen Exhaust 2	Bath Exhaust 2
Exhaust test Method Paper check	Exhaust test Method Paper check
Pass Fail Vapor/smoke	Pass Fail Vapor/smoke
Manometercfm	Manometercfm
Gas Appliance Testing OK C TA	NA Comments Chronic Acute
No reported/observed gas leak	
Measurement Performed?	
Yes No Measurement Type:	
!!! If no gas is detected, it is now safe to per	form combustion appliance testing !!!
Home Heating System 1: Natural Gas LP Gas	Home Heating System 2: Natural Gas LP Gas
Spillage Test Method Vapor/smoke tube	Spillage Test Method Vapor/smoke tube
COppm	CO ppm
Pass Fail Mnmtr. cfm	Pass Fail Mnmtr. cfm
Other	Other
Combustion Appliance Zone (CAZ) Test  Pass Fail	Combustion Appliance Zone (CAZ) Test  Pass Fail
Method CO ppm Other	Method CO ppm Other
CAZ- Worst-case Depressurization Test	CAZ- Worst-case Depressurization Test
Measured Pressure: pascals	Measured Pressure: pascals
Pass Fail CO ppm	Pass Fail CO ppm
Gas Water Heater 1: Natural Gas LP Gas	Gas Water Heater 2: Natural Gas LP Gas
Spillage Test Method Vapor/smoke tube	Spillage Test Method Vapor/smoke tube
CO ppm	CO ppm
Pass Fail Mnmtr. cfm	Pass Fail Mnmtr. cfm
Other	Other
Combustion Appliance Zone (CAZ) Test	Combustion Appliance Zone (CAZ) Test
Pass Fail Other	Pass Fail Other
Method CO ppm Other  CAZ- Worst-case Depressurization Test	Method CO ppm Other  CAZ- Worst-case Depressurization Test
Measured Pressure: pascals	Measured Pressure: pascals
Pass Fail CO ppm	Pass Fail CO ppm
Gas Stove: Natural Gas LP Gas Combustion Appliance Zone (CAZ) Test	Gas Dryer: Natural Gas LP Gas Combustion Appliance Zone (CAZ) Test
Pass Fail	Pass Fail
Method CO ppm Other	Method CO ppm Other
CAZ- Worst-case Depressurization Test	CAZ- Worst-case Depressurization Test
Measured Pressure: pascals	Measured Pressure: pascals
Pass Fail CO ppm	Pass Fail CO ppm

3.0	House/	'Floor	/Room	Plan	Drawings
-----	--------	--------	-------	------	----------

EHA ID #:

Date:

Items to be included on floor plan drawing:

- \* Smoke tube applicable doorways
- \* Measure and note ft' and ft' for each room assessed
- \* Note locations for supply, return, and exhaust vents
- \* Note room contents (tables, couches, dressers, etc.)
- \* Note locations of moisture sources (sinks, toilets, W/D, etc.)
- \* Note locations of "issues"

Issues Key

F - Fragranced products

C - Chemical products

MS - Moisture stain

SM - Suspect mold

FP - Flaking paint

SH - Safety hazard

	Compass Direction:	
	Compass Direction.	
		<del></del>
		<u> </u>
		<del></del>
Door 1 Door 2 Pressure Readings/	Door 3         Door 4         Door 5         Door 6         Door	7 Door 8 Door 9 Door 10
Smoke Tube		<u> </u>
Measurements		

4.0 Field Notes and Calculations	EHA ID #:	Date:	Date:				
Home Assessor Name(s):							
			<u> </u>				

# **Inspection Checklist** Housing Choice Voucher Program

Name of Family

## U.S. Department of Housing and Urban Development

Office of Public and Indian Housing

Tenant ID Number

OMB Approval No. 2577-0169 (Exp. 9/30/2012)

Date of Request (mm/dd/yyyy)

Public reporting burden for this collection of information is estimated to average 0.50 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless that collection displays a valid OMB control number. Assurances of confidentiality are not provided under this collection.

This collection of information is authorized under Section 8 of the U.S. Housing Act of I937 (42 U.S.C. 1437f). The information is used to determine if a unit meets the housing quality standards of the section 8 rental assistance program.

Privacy Act Statement. The Department of Housing and Urban Development (HUD) is authorized to collect the information required on this form by Section 8 of the U.S. Housing Act of 1937 (42 U.S.C. 1437f). Collection of the name and address of both family and the owner is mandatory. The information is used to determine if a unit meets the housing quality standards of the Section 8 rental assistance program. HUD may disclose this information to Federal, State and local agencies when relevant to civil, criminal, or regulatory investigations and prosecutions. It will not be otherwise disclosed or released outside of HUD, except as permitted or required by law. Failure to provide any of the information may result in delay or rejection of family participation.

Inspector				Neighbor	nood/Census Tract		Date of msp	ection (mm/dd/yyyy)
Type of Inspection Initial Special Reinspection					Date of Last Inspection (mm/dd/yy	yy)	РНА	
A. General Information								
Inspected Unit Year Co	onstruc	ted (yy	/y)				Housing Typ	e (check as appropriate)
Full Address (including Street, City, County, State, Zip)							Duplex of Row Hotel Low Rise	amily Detached or Two Family use or Town House e: 3, 4 Stories, g Garden Apartment
Number of Children in Family Under 6							<b>—</b>	e; 5 or More Stories stured Home
Owner						-	Congreg	
Name of Owner or Agent Authorized to Lease Unit Inspected				Phone N	Number		Coopera Independent Residen	dent Group
B. Summary Decision On Unit (To be completed at Pass of the FMR or Payment Standard				ed out) ing Room	s		Single R Shared I Other	oom Occupancy Housing
Fail Inconclusive								
Inspection Checklist								
Item No. 1. Living Room	Yes Pass	No Fail	In - Conc.		Comment			Final Approval Date (mm/dd/yyyy)
1.1 Living Room Present								
1.2 Electricity								
1.3 Electrical Hazards								
1.4 Security								
1.5 Window Condition								
1.6 Ceiling Condition								
1.7 Wall Condition								
1.8 Floor Condition								
Previous editions are obsolete			Pa	age 1 of 7			form	HUD-52580 (3/2001) ref Handbook 7420.8

\* Room Codes: 1 = Bedroom or Any Other Room Used for Sleeping (regardless of type of room); 2 = Dining Room or Dining Area; 3 = Second Living Room, Family Room, Den, Playroom, TV Room; 4 = Entrance Halls, Corridors, Halls, Staircases; 5 = Additional Bathroom; 6 = Other Yes No In-Final Approval Item 1. Living Room (Continued)

No.	1. Living Room (Continued)	Pass	Fail	Conc.	Comment	Date (mm/dd/yyyy)
1.9	Lead-Based Paint Are all painted surfaces free of deteriorated paint?				Not Applicable	
	If not, do deteriorated surfaces exceed two square feet per room and/or is more than 10% of a component?					
	2. Kitchen					
2.1	Kitchen Area Present					
2.2	Electricity					
2.3	Electrical Hazards					
2.4	Security					
2.5	Window Condition					
2.6	Ceiling Condition					
2.7	Wall Condition					
2.8	Floor Condition					
2.9	Lead-Based Paint Are all painted surfaces free of deteriorated paint?				Not Applicable	
	If not, do deteriorated surfaces exceed two square feet per room and/or is more than 10% of a component?					
2.10	Stove or Range with Oven					
2.11	Refrigerator					
2.12	Sink					
2.13	Space for Storage, Preparation, and Serving of Food					
	3. Bathroom					
3.1	Bathroom Present					
3.2	Electricity					
3.3	Electrical Hazards					
3.4	Security					
	Window Condition					
3.5						
3.6	Ceiling Condition					
3.7	Wall Condition					
3.8	Floor Condition  Lead-Based Paint				Not Applicable	
0.0	Are all painted surfaces free of deteriorated paint?  If not, do deteriorated surfaces exceed two					
	square feet per room and/or is more than 10% of a component?					
3.10	Flush Toilet in Enclosed Room in Unit					
3.11	Fixed Wash Basin or Lavatory in Unit					
3.12	Tub or Shower in Unit					
3.13	Ventilation					
		<u> </u>	<u> </u>	<u> </u>	forms 11	IID 52500 (2/2001)

Item No.	4. Other Rooms Used For Living and Halls	Yes Pass	No Fail	In- Conc.	Comment		Final Approval Date (mm/dd/yyyy)
4.1	Room Code* and		ircle Or		(Circle One)		
	Room Location	Right	/Cente	r/Left	Front/Center/Rear	Floor Level	
4.2	Electricity/Illumination						
4.3	Electrical Hazards						
4.4	Security						
4.5	Window Condition						
4.6	Ceiling Condition						
4.7	Wall Condition						
4.8	Floor Condition						
4.9	Lead-Based Paint				Not Applicable		
	Are all painted surfaces free of deteriorated paint?						
	If not, do deteriorated surfaces exceed two square feet per room and/or is more than 10% of a component?						
4.10	Smoke Detectors						
4.1	Room Code* and Room Location	,	ircle Or /Center	,	(Circle One) Front/Center/Rear	Floor Level	
4.2	Electricity/Illumination						
4.3	Electrical Hazards						
4.4	Security						
4.5	Window Condition						
4.6	Ceiling Condition						
4.7	Wall Condition						
4.8	Floor Condition						
4.9	Lead-Based Paint				Not Applicable		
	Are all painted surfaces free of deteriorated paint?				Not Applicable		
	If not, do deteriorated surfaces exceed two square feet per room and/or is more than 10% of a component?						
4.10	Smoke Detectors						
4.10	Room Code* and	<u> </u>	ircle O	ne)	(Circle One)		
4.1	Room Location —		t/Cente		Front/Center/Rear	Floor Level	
4.2	Electricity/Illumination						
4.3	Electrical Hazards						
4.4	Security						
4.5	Window Condition						
4.6	Ceiling Condition						
4.7	Wall Condition						
4.8	Floor Condition						
4.9	Lead-Based Paint				Not Applicable		
	Are all painted surfaces free of deteriorated paint?						
	If not, do deteriorated surfaces exceed two square feet per room and/or is more than 10% of a component?						
4.10	Smoke Detectors						

Item No.	4. Other Rooms Used For Living and Halls	Yes Pass	No Fail	In- Conc.	Comment	Final Approval Date (mm/dd/yyyy)
4.1	Room Code* and		rcle C		(Circle One)	
	Room Location	Right	Cente	er/Left	Front/Center/RearFloor Level	
4.2	Electricity/Illumination					
4.3	Electrical Hazards					
4.4	Security					
4.5	Window Condition					
4.6	Ceiling Condition					
4.7	Wall Condition					
4.8	Floor Condition					
4.9	Lead-Based Paint				Not Applicable	
	Are all painted surfaces free of deteriorated paint?					
	If not, do deteriorated surfaces exceed two square feet per room and/or is more than					
4.40	10% of a component?					
4.10	Smoke Detectors  Room Code* and	(0	inala (	)\	(Cirolo One)	
<del>4</del> .1	Room Location	Right/	ircle ( Cente		(Circle One) Front/Center/RearFloor Level	
4.2	Electricity/Illumination					
4.3	Electrical Hazards					
4.4	Security					
4.5	Window Condition					
4.6	Ceiling Condition					
4.7	Wall Condition					
4.8	Floor Condition					
4.9	Lead-Based Paint				Not Applicable	
	Are all painted surfaces free of deteriorated paint?					
	If not, do deteriorated surfaces exceed two square feet per room and/or is more than 10% of a component?					
4.10	Smoke Detectors					
	5. All Secondary Rooms (Rooms not used for living)					
5.1	None Go to Part 6					
5.2	Security					
5.3	Electrical Hazards					
5.4	Other Potentially Hazardous Features in these Rooms					

Item No.	o. Duliuliu Exterior		No Fail	In - Conc.	Comment	Final Approval Date (mm/dd/yyyy)
6.1	Condition of Foundation					
6.2	Condition of Stairs, Rails, and Porches					
6.3	Condition of Roof/Gutters					
6.4	Condition of Exterior Surfaces					
6.5	Condition of Chimney					
6.6	Lead Paint: Exterior Surfaces Are all painted surfaces free of deteriorated paint?				Not Applicable	
	If not, do deteriorated surfaces exceed 20 square feet of total exterior surface area?					
6.7	Manufactured Home: Tie Downs					
	7. Heating and Plumbing					
7.1	Adequacy of Heating Equipment					
7.2	7.2 Safety of Heating Equipment					
7.3	Ventilation/Cooling					
7.4	Water Heater					
7.5	Approvable Water Supply					
7.6	Plumbing					
7.7	Sewer Connection					
	8. General Health and Safety					
8.1	Access to Unit					
8.2	Fire Exits					
8.3	Evidence of Infestation					
8.4	Garbage and Debris					
8.5	Refuse Disposal					
8.6	Interior Stairs and Commom Halls					
8.7	Other Interior Hazards					
8.8	Elevators					
8.9	Interior Air Quality					
8.10	Site and Neighborhood Conditions					_
8.11	Lead-Based Paint: Owner's Certification				Not Applicable	

If the owner is required to correct any lead-based paint hazards at the property including deteriorated paint or other hazards identified by a visual assessor, a certified lead-based paint risk assessor, or certified lead-based paint inspector, the PHA must obtain certification that the work has been done in accordance with all applicable requirements of 24 CFR Part 35. The Lead -Based Paint Owner Certification must be received by the PHA before the execution of the HAP contract or within the time period stated by the PHA in the owner HQS violation notice. Receipt of the completed and signed Lead-Based Paint Owner Certification signifies that all HQS lead-based paint requirements have been met and no re-inspection by the HQS inspector is required.

1. Living Room	4. Bath
High quality floors or wall coverings  Working fireplace or stove Balcony, patio, deck, porch Special windows or doors  Exceptional size relative to needs of family  Other: (Specify)	Special feature shower head Built-in heat lamp Large mirrors Glass door on shower/tub Separate dressing room Double sink or special lavatory Exceptional size relative to needs of family Other: (Specify)
2. Kitchen	
Dishwasher Separate freezer Garbage disposal Eating counter/breakfast nook Pantry or abundant shelving or cabinets Double oven/self cleaning oven, microwave Double sink High quality cabinets Abundant counter-top space Modern appliance(s) Exceptional size relative to needs of family Other: (Specify)	5. Overall Characteristics  Storm windows and doors Other forms of weatherization (e.g., insulation, weather stripping) Screen doors or windows Good upkeep of grounds (i.e., site cleanliness, landscaping condition of lawn) Garage or parking facilities Driveway Large yard Good maintenance of building exterior Other: (Specify)
3. Other Rooms Used for Living	
High quality floors or wall coverings  Working fireplace or stove Balcony, patio, deck, porch Special windows or doors  Exceptional size relative to needs of family Other: (Specify)	Disabled Accessibility  Unit is accessible to a particular disability.  Disability
D. Questions to ask the Tenant (Optional)  1. Does the owner make repairs when asked? Yes   2. How many people live there?  3. How much money do you pay to the owner/agent for rent?   4. Do you pay for anything else? (specify)	No

C. Special Amenities (Optional)

No

6. Is there anything else you want to tell us? (specify) Yes

E. Inspection Summary/Comments (Optional)  Provide a summary description of each item which resulted in a rating of "Fail" or "Pass with Comments."								
Tenant ID Number	Inspector						e of Inspection (mm/dd/yyyy)	
Type of Inspection	Initial		Special		Reinspect	ion		
Item Number				Re	ason for "Fa	ail" or	"Pass with Comments" I	Rating
Continued on additi	onal page [	→ Y	es [		No			

<b>Uniform Physical Condition Standards - Comprehensive L</b>	isting
Inspectable Area: Site	

able Area: <u>Site</u>	
Property ID / Name:	Inspection Date:

Page: of

				Level	1		
Inspectable Item	Observable Deficiency	NOD	1	2	3	NA	H&S
Fencing and Gates	Damaged/Falling/Leaning						NLT
	Holes						NLT
	Missing Sections						NLT
Grounds	Erosion/Rutting Areas						NLT
	Overgrown/Penetrating Vegetation						
	Ponding/Site Drainage						
Health & Safety	Air Quality - Sewer Odor Detected						NLT
	Air Quality - Propane/Natural Gas/Methane Gas Detected						LT
	Electrical Hazards - Exposed Wires/Open Panels						LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment						LT
	Flammable Materials - Improperly Stored						NLT
	Garbarge and Debris - Outdoors						NLT
	Hazards - Other						NLT
	Hazards - Sharp Edges						NLT
	Hazards - Tripping						NLT
	Infestation - Insects						NLT
	Infestation - Rats/Mice/Vermin						NLT
Mailboxes/Project Signs	Mailbox Missing/Damaged						
	Signs Damaged						
Market Appeal	Graffiti						
	Litter						
Parking Lots/Driveways/Roads	Cracks						
-	Ponding						
	Potholes/Loose Material						
	Settlement/Heaving						
Play Areas and Equipment	Damaged/Broken Equipment						NLT
	Deteriorated Play Area Surface						
Refuse Disposal	Broken/Damaged Enclosure-Inadequate Outside Storage Space						
Retaining Walls	Damaged/Falling/Leaning						NLT
Storm Drainage	Damaged/Obstructed						
Walkways/Steps	Broken/Missing Hand Railing						NLT
<b>7</b> 1 -	Cracks/Settlement/Heaving						
	Spalling						

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Uniform Physical Condition Standards - Comprehensive Listing	Page:	of	
Inspectable Area: <u>Building Exterior</u>		_	
Property ID / Name:	Inspection Date:		
Building Number:			

				Level			
Inspectable Item	Observable Deficiency	NOD	1	2	3	NA	H&S
Doors	Damaged Frames/Threshold/Lintels/Trim						NLT
	Damaged Hardware/Locks						
	Damaged Surface (Holes/Paint/Rusting/Glass)						
	Damaged/Missing Screen/Storm/Security Door						NLT
	Deteriorated/Missing Caulking/Seals						
	Missing Door						
Fire Escapes	Blocked Egress/Ladders						LT
•	Visibly Missing Components						LT
Foundations	Cracks/Gaps						
	Spalling/Exposed Rebar						
Health and Safety	Electrical Hazards - Exposed Wires/Open Panels						LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment						LT
	Emergency Fire Exits - Emergency/Fire Exits Blocked/Unusable						LT
	Emergency Fire Exits - Missing Exit Signs						NLT
	Flammable/Combustible Materials - Improperly Stored						NLT
	Garbage and Debris - Outdoors						NLT
	Hazards - Other						NLT
	Hazards - Sharp Edges						NLT
	Hazards - Tripping						NLT
	Infestation - Insects						NLT
	Infestation - Rats/Mice/Vermin						NLT
Lighting	Broken Fixtures/Bulbs						
Roofs	Damaged Soffits/Fascia						
	Damaged Vents						
	Damaged/Clogged Drains						
	Damaged/Torn Membrane/Missing Ballast						
	Missing/Damaged Components from Downspout/Gutter						
	Missing/Damaged Shingles						
	Ponding						
Walls	Cracks/Gaps						
	Damaged Chimneys						NLT
	Missing/Damaged Caulking/Mortar						
	Missing Pieces/Holes/Spalling						
	Stained/Peeling/Needs Paint						
Windows	Broken/Missing/Cracked Panes						NLT
	Damaged Sills/Frames/Lintels/Trim						
	Damaged/Missing Screens						
	Missing/Deteriorated Caulking/Seals/Glazing Compound						
	Peeling/Needs Paint						
	Security Bars Prevent Egress						LT

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Uniform Physical Condition Standards - Comprehensive Listing	Page: of
Inspectable Area: <u>Building Systems</u>	
Property ID / Name:	Inspection Date:

Building Number: \_\_\_\_\_

•				Level			
Inspectable Item	Observable Deficiency	NOD	1	2	3	NA	H&S
Domestic Water	Leaking Central Water Supply						
	Misaligned Chimney/Ventilation System						LT
	Missing Pressure Relief Valve						NLT
	Rust/Corrosion on Heater Chimney						NLT
	Water Supply Inoperable						NLT
Electrical System	Blocked Access/Improper Storage						NLT
	Burnt Breakers						NLT
	Evidence of Leaks/Corrosion						NLT
	Frayed Wiring						
	Missing Breakers/Fuses						LT
	Missing Covers						LT
Elevators	Not Operable						NLT
Emergency Power	Auxiliary Lighting Inoperable						
	Run-Up Records/Documentation Not Available						
Fire Protection	Missing Sprinkler Head						NLT
	Missing/Damaged/Expired Extinguishers						LT
Health & Safety	Air Quality - Mold and/or Mildew Observed						NLT
	Air Quality - Propane/Natural Gas/Methane Gas Detected						LT
	Air Quality - Sewer Odor Detected						NLT
	Electrical Hazards - Exposed Wires/Open Panels						LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment						LT
	Elevator - Tripping						NLT
	Emergency Fire Exits - Emergency/Fire Exits Blocked/Unusable						LT
	Emergency Fire Exits - Missing Exit Signs						NLT
	Flammable Materials - Improperly Stored						NLT
	Garbage and Debris - Indoors						NLT
	Hazards - Other						NLT
	Hazards - Sharp Edges						NLT
	Hazards - Tripping						NLT
	Infestation - Insects						NLT
	Infestation - Rats/Mice/Vermin						NLT
HVAC	Boiler/Pump Leaks						
	Fuel Supply Leaks						NLT
	General Rust/Corrosion						NLT
	Misaligned Chimney/Ventilation System						LT
Roof Exhaust System	Roof Exhaust Fan(s) Inoperable						
Sanitary System	Broken/Leaking/Clogged Pipes or Drains						NLT
	Missing Drain/Cleanout/Manhole Covers						

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# Uniform Physical Condition Standards - Comprehensive Listing Inspectable Area: <u>Common Areas</u>

Property ID / Name:	Inspection Date:	
Building Number:		
	Laval	

**Page:** \_\_\_\_ of \_\_\_\_

J		_		Level			
X Inspectable Item Location	Observable Deficiency	NOD	1	2	3	NA	H&S
Basement/Garage/Carport	Baluster/Side Railings - Damaged						
Closet/Utility/Mechanical	Cabinets - Missing/Damaged						
Community Room	Call for Aid - Inoperable						NLT
Day Care	Ceiling - Bulging/Buckling	1					
Halls/Corridors/Stairs	Ceiling - Holes/Missing Tiles/Panels/Cracks						
Kitchen	Ceiling - Peeling/Needs Paint						
Laundry Room	Ceiling - Water Stains/Water Damage/Mold/Mildew	-	1	1			
Lobby	Countertops - Missing/Damaged						
Office	Dishwasher/Garbage Disposal - Inoperable			_			
Other Community Spaces	Doors - Damaged Frames/Threshold/Lintels/Trim			_			NLT
							INLI
Patio/Porch/Balcony	Doors - Damaged Hardware/Locks						
Restrooms/Pool Structures	Doors - Damaged Surface (Holes/Paint/Rust/Glass)						N 11 T
Storage	Doors - Damaged/Missing Screen/Storm/Security Door						NLT
	Doors - Deteriorated/Missing Seals (Entry Only)						
	Doors - Missing Door						
	Dryer Vent -Missing/Damaged/Inoperable						
	Electrical - Blocked Access to Electrical Panel						NLT
	Electrical - Burnt Breakers						NLT
	Electrical - Evidence of Leaks/Corrosion						NLT
	Electrical - Frayed Wiring						
	Electrical - Missing Breakers						LT
	Electrical - Missing Covers	1					LT
	Floors - Bulging/Buckling						
	Floors - Floor Covering Damaged						
	Floors - Missing Floor/Tiles						
	Floors - Peeling/Needs Paint						-
	Floors - Rot/Deteriorated Subfloor						
	Floors - Water Stains/Water Damage/Mold/Mildew						=
	GFI - Inoperable						NLT
	Graffiti						
	HVAC - Convection/Radiant Heat System Covers Missing/Damaged						
	HVAC - General Rust/Corrosion						
	HVAC - Inoperable						
	HVAC - Misaligned Chimney/Ventilation System						LT
	HVAC - Noisy/Vibrating/Leaking						
	Lavatory Sink - Damaged/Missing						NLT
	Lighting - Missing/Damaged/Inoperable Fixture						
	Mailbox - Missing/Damaged						
	Outlets/Switches/Cover Plates - Missing/Broken	-			1		LT
	Pedestrian/Wheelchair Ramp	-			<b>-</b>		
	Plumbing - Clogged Drains						NLT
	Plumbing - Clogged Drains Plumbing - Leaking Faucet/Pipes	+			<del>                                     </del>		NLT
	Range Hood /Exhaust Fans - Excessive Grease/Inoperable						INLI
					<b> </b>		<del>                                     </del>
	Range/Stove - Missing/Damaged/Inoperable	-					
	Refrigerator - Damaged/Inoperable						
	Restroom Cabinet - Damaged/Missing						
	Shower/Tub - Damaged/Missing						
	Sink - Missing/Damaged						NLT
	Smoke Detector - Missing/Inoperable						LT
	Stairs - Broken/Damaged/Missing Steps						NLT
	Stairs - Broken/Missing Hand Railing						NLT
	Ventilation/Exhaust System - Inoperable						
	Walls - Bulging/Buckling						
	Walls - Damaged				<b>-</b>		
	Walls - Damaged/Deteriorated Trim			1			
	Walls - Peeling/Needs Paint			1			<del>                                     </del>
	Walls - Water Stains/Water Damage/Mold/Mildew			1			
				-			-
	Water Closet/Toilet - Damaged/Clogged/Missing	-					N 11 -
	Windows - Cracked/Broken/Missing Panes						NLT
	Windows - Damaged Window Sill						
	Windows - Inoperable/Not Lockable						NLT

	Windows - Missing/Deteriorated Caulking/Seals/Glazing Compound			
	Windows - Peeling/Needs Paint			
	Windows - Security Bars Prevent Egress			LT
Health & Safety	Air Quality - Mold and/or Mildew Observed			NLT
	Air Quality - Propane/Natural Gas/Methane Gas Detected			LT
	Air Quality - Sewer Odor Detected			NLT
	Electrical Hazards - Exposed Wires/Open Panels			LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment			LT
	Emergency Fire Exits - Emergency/Fire Exits Blocked/Unusable			LT
	Emergency Fire Exits - Missing Exit Signs			NLT
	Flammable/Combustible Materials - Improperly Stored			NLT
	Garbage and Debris - Indoors			NLT
	Garbage and Debris - Outdoors			NLT
	Hazards - Other			NLT
	Hazards - Sharp Edges			NLT
	Hazards - Tripping			NLT
	Infestation - Insects			NLT
	Infestation - Rats/Mice/Vermin			NLT
Pools and Related Structures	Fencing - Damaged/Not Intact			
	Pool - Not Operational			
Trash Collection Areas	Chutes - Damaged/Missing Components			

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Uniform Physical Condition Standards - Comprehensive Listing	Page:
nspectable Area: Unit	<u></u>

Property ID / Name:	!	nspection Date:	
Building/Unit Nmbr:	_		1

				Level			
Inspectable Item	Observable Deficiency	NOD	1	2	3	NA	H&S
Bathroom	Bathroom Cabinets - Damaged/Missing						
	Lavatory Sink - Damaged/Missing						NLT
	Plumbing - Clogged Drains						NLT
	Plumbing - Leaking Faucet/Pipes						NLT
	Shower/Tub - Damaged/Missing						NLT
	Ventilation/Exhaust System - Inoperable						
	Water Closet/Toilet - Damaged/Clogged/Missing						NLT
Call-for-Aid	Inoperable						NLT
Ceiling	Bulging/Buckling						
	Holes/Missing Tiles/Panels/Cracks						
	Peeling/Needs Paint						
	Water Stains/Water Damage/Mold/Mildew						
Doors	Damaged Frames/Threshold/Lintels/Trim						NLT
200.0	Damaged Hardware/Locks						
	Damaged/Missing Screen/Storm/Security Door						NLT
	Damaged Surface - Holes/Paint/Rusting/Glass						
	Deteriorated/Missing Seals (Entry Only)						
	Missing Door						NLT
Electrical System	Blocked Access to Electrical Panel						NLT
Liectrical System	Burnt Breakers						NLT
	Evidence of Leaks/Corrosion						NLT
	Frayed Wiring						INLI
	GFI - Inoperable						NII T
	Missing Breakers/Fuses						NLT
	Missing Covers						LT LT
-							LI
Floors	Bulging/Buckling						
	Floor Covering Damage						
	Missing Flooring Tiles						
	Peeling/Needs Paint			_			
	Rot/Deteriorated Subfloor						
	Water Stains/Water Damage/Mold/Mildew						
Health & Safety	Air Quality - Mold and/or Mildew Observed						NLT
	Air Quality - Sewer Odor Detected						NLT
	Air Quality - Propane/Natural Gas/Methane Gas Detected						LT
	Electrical Hazards - Exposed Wires/Open Panels						LT
	Electrical Hazards - Water Leaks on/near Electrical Equipment						LŢ
	Emergency Fire Exits - Emergency/Fire Exits Blocked/Unusable						LT
	Emergency Fire Exits - Missing Exit Signs						NLT
	Flammable Materials - Improperly Stored						NLT
	Garbage and Debris - Indoors						NLT
	Garbage and Debris - Outdoors						NLT
	Hazards - Other						NLT
	Hazards - Sharp Edges						NLT
	Hazards - Tripping						NLT
	Infestation - Insects						NLT
	Infestation - Rats/Mice/Vermin						NLT
Hot Water Heater	Misaligned Chimney/Ventilation System						LT
	Inoperable Unit/Components						NLT
	Leaking Valves/Tanks/Pipes						
	Pressure Relief Valve Missing					NLT	
	Rust/Corrosion						NLT
HVAC System	Convection/Radiant Heat System Covers Missing/Damaged						
	Inoperable						
	Misaligned Chimney/Ventilation System						LT

	Noisy/Vibrating/Leaking		
	Rust/Corrosion		
Kitchen	Cabinets - Missing/Damaged		NLT
	Countertops - Missing/Damaged		NLT
	Dishwasher/Garbage Disposal - Inoperable		
	Plumbing - Clogged Drains		NLT
	Plumbing - Leaking Faucet/Pipes		NLT
	Range Hood/Exhaust Fans - Excessive Grease/Inoperable		
	Range/Stove - Missing/Damaged/Inoperable		
	Refrigerator-Missing/Damaged/Inoperable		NLT
	Sink - Damaged/Missing		NLT
Laundry Area (Room)	Dryer Vent - Missing/Damaged/Inoperable		
Lighting	Missing/Inoperable Fixture		NLT
Outlets/Switches	Missing		LT
	Missing/Broken Cover Plates		LT
Patio/Porch/Balcony	Baluster/Side Railings Damaged		
Smoke Detector	Missing/Inoperable		LT
Stairs	Broken/Damaged/Missing Steps		NLT
	Broken/Missing Hand Railing		NLT
Walls	Bulging/Buckling		
	Damaged		
	Damaged/Deteriorated Trim		
	Peeling/Needs Paint		
	Water Stains/Water Damage/Mold/Mildew		
Windows	Cracked/Broken/Missing Panes		NLT
	Damaged Window Sill		
	Missing/Deteriorated Caulking/Seals/Glazing Compound		
	Inoperable/Not Lockable		NLT
	Peeling/Needs Paint		
	Security Bars Prevent Egress		LT

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# Assessment Checklist – Exterior Location Type

Address:				Unit:	Date:	
Location Number	·		Location Name:			
Length:	Width:		Height:	_		
Chinana.						
Chimney		СГ	CHIMANEY DEDOINT			
			CHIMNEYREPOINT			
			FLASH CHIMNEY CHIMNEY CAP			
Roof						
			ROOF SHEATHING 1/2			
			TEAR OFF AND REROC			
			VENTALUMINUM RII			
			EPDM W/INSULATION			
			MODIFIED BITUMEN F			
			ROOF FLASHINGREP	AIK		
			FASCIA 1"X 6"			
15 - 4760 -						
Gutters & Dov	•					
			GUTTERINSTALL5"		LUMINUM	
			DOWNSPOUT2X3" A			
			DOWNSPOUT3X4" A	LUMINUM		
			SPLASH BLOCK			
Siding						
10 - 2585		SF	SIDINGCLAPBOARD F	REPLACE		
10 - 2615		SF	SIDINGCEDAR SHING	LE REPAIR		
10 - 2640		SQ	SIDINGVINYL			
10 - 2645		LF	TRIMWRAP WITH VI	NYL		
10 - 2675		SF	SIDINGALUMINUM F	REPAIR		
10 - 2705		SF	STUCCOPATCH			
Masonry						
•		SF	FOUNDATONPARGE	Γ		
			MASONRYREPOINT			
7 - 1235		SF	BRICK WALL REPAIR			
<del></del>						
 Doors						
		FΑ	DOORREWORK EXTE	RIOR		
			DOOR CASINGREPLA			
10 - 3120			DOORREPLACE ENTR		WARE	
			DOOREXTERIOR PAN			
			DOORPREHUNG ME		CE	
—					<del>-</del>	
			<u> </u>			

# **Assessment Checklist – Exterior Location Type**

Address:				Unit:	Date:
Location Number:			Location Name:		
Length:	Width:		Height:	_	
Mindows					
Windows		г л	VA/E A TI LEDCT DID VA/INIE	014/	
			WEATHERSTRIP WIND		
			WINDOWVINYL DBL		DEDI 4.051.451.17.04.0
		ŁΑ	WINDOWWOOD DB	L HNG/DBL GLZ	REPLACEMENT PAC
Porch					
6 - 865		EΑ	FOOTINGPIER		
10 - 3455		LF	DECK JOIST2"X 6" PT	P	
10 - 3470		EA	POST4"X 4"		
6 - 905			CONCRETE SLABPAT	СН	
			DECKTONGUE AND		
			PORCH CEILING1/4"		
			-		
Rails			MACTAL CLIADO DALL	CTEE!	
			METAL GUARD RAIL		
			PORCH GUARD RAIL R		(TEDIOD
			WOOD STAIR HANDRA	AILREPLACE EX	KTERIOR
		LF	GUARD RAILWOOD		
<u></u>					
Steps					
6 - 1035		AL	STEPSREPAIR CONCE	RETE	
6 - 1045		RI	STEPS AND LANDINGS	CONCRETE	
10 - 3585		EΑ	TREAD REPLACEMENT	EXTERIOR	
10 - 3590		EΑ	STEPS/LANDINGREP	LACE EXTERIOR	
Painting		СГ	DDED 0 DAINT EVTEDIA		100
			PREP & PAINT EXTERIOR		
19 - 5679			PREP & PAINT EXTERIOR		v voc
19 - 5785 -		5F	PREP & PAINT EXTERI	JR MASONRY	
Electric					
23 - 7640		EA	WEATHERPROOF REC	EPTACLE	
23 - 8166		EA	EXTERIOR LIGHT FIXTU	JRE-REPLACE	
23 - 8160		EA	ENTRANCE LIGHT		
23 - 8175		EΑ	FLOOD LIGHTDOUBL	E BULB	
			·		
 Yard			-		
		SE	REGRADE FOUNDATION	)NI	
4 - 550 				Z1 <b>V</b>	

# **Assessment Checklist – Bathroom Location Type**

Address:				Unit:	Date:
.ocation Number:			Location Name:		
_ength:	Width:		Height:	-	
Damalitian Co	ا محمد ا		a and Dianagal		
Demolition, Sa	•		•		
			DEMO WALL FINISHES		
Walls & Ceiling	5				
17 - 5205		SF	DRYWALLRENAIL & R	RETAPE	
17 - 5245		SF	DRYWALLLAMINATE	WATER RESIST	
17 - 5280		SF	DRYWALLWATER RES	SISTANT	
17 - 5355		SF	PATCH PLASTER		
Flooring					
_		I E	SHOE MOLDING		
			UNDERLAY AND VINYL	THE	
			UNDERLAY & VINYL SH		
Insulation					
16 - 4905			INSULATE WALLR-13	BATT	
			-		
Doors					
		EΑ	REWORK INTERIOR DO	OOR	
10 - 3285			LOCKSETBATHROOM		
			DOOR STOPBASEBOA		
			DOORFLUSH INT, HO		
			DOORPREHUNG PAS		
Windows			0.001.001		
			SASH LOCK		
			SASH CORDS	D 64611	
			GLASS REPLACEWOO		
			WOOD SASHSINGLE	GLAZED	
Ceramic Tile					
18 - 5405		SF	CERAMIC TILEREGRO	UT, CAULK	
18 - 5410		SF	CERAMIC TILEREPAIR	<b>{</b>	
<del></del> =					
Painting					
_		SF	PREP & PAINT VACANT	E ROOM W/ DAIR	NTED TRIM-I OW VOC
			PREP & PAINT VACANT		
T3 - 2200		J1	THE CHAINI VACANI		

## **Assessment Checklist – Bathroom Location Type**

Address:			Unit: Date:
<b>Location Number:</b>			Location Name: Height:
Length:	Width:		Height:
Electric			
		FΔ	RECEPTACLEGFCI BATH
23 - 7675			SWITCH REPLACE
			FAN/LIGHT FIXTURE-ENERGY STAR
			BATHROOM FAN/LIGHT FIXTURECONTINUOUSSINGLE SWITCH
HVAC		ГΛ	LICAT DUCT AND DECISTED
21 - 0325		EA	HEAT DUCT AND REGISTER
Plumbing			
			BATHTUB/SHOWER5' FIBERGLASSCOMPLETE
22 - 7183			BATH FIXTURES-WATER SAVING
22 - 6875			FAUCETLAVATORY SINGLE LEVER
			SHOWER HEAD2 GPM
			COMMODEREPLACE1.28 GPF
22 - 6962			BATHTUB/SHOWER SURROUND5' FIBERGLASS
			TUB END WALL
22 - 6645			SHUT-OFF VALVE
			FAUCET REPAIRBATH
22 - 6945			BATHTUB5' STEEL COMPLETE
22 - 6965		EΑ	SHOWERSTALLFIBERGLASS
22 - 7000			TOILET SEAT
22 - 7005		EΑ	COMMODEREFURBISH
			· <del></del>
Accessories			
10 - 3810		EΑ	TOWEL BAR
10 - 3825		EΑ	MEDICINE CABINETSURF MOUNT
10 - 3835		EA	ACCESSORY SET6 PIECE CHROME
10 - 3937		EΑ	FIXED SIDE & REAR WALL GRAB BARS—COMMODE
10 - 3938		EΑ	FOLD-UP GRAB BAR—COMMODE
10 - 3940		EΑ	TUB/SHOWER GRAB BAR SET
<del></del> -			

Location Type	Kitchen					
Address:					Unit:	
Location Name	:				Location #:	
Dimensions:	•	W.	H·	Date:		

#### **Hazard Assessment**

Hazard Assessment	1	ı		T
Principle Shaded cells with ✓ require action	Y	N	<b>Description</b> – Note specific hazards, and potential issues. Items for further testing, professional follow-up.	Severity C = Chronic
Clean			location for faithful tooking, professional follow up.	A = Acute
Cleanable surfaces				
• Clutter				
Hoarding				
Sufficient storage				
Dry				
Signs of moisture				
Active leaks				
High humidity				
Musty odor				
Pest Free				
Signs of pests				
Food sources				
<ul> <li>Access points for pests</li> </ul>				
Safe				
Lighting adequate				
Electrical hazards				
Tripping hazards				
<ul> <li>Accessibility issues</li> </ul>				
Risk for falls				
Secure entry				
Contaminant Free				
ETS				
Deteriorated paint				
ACM				
CO Detectors				
Odors - VOCs				
Ventilated	1			
Fresh air source				
Windows operable				
Odors				
Dampness				
Maintained				
Signs of deferred				
maintenance				
Difficult to maintain				
elements				
Deteriorated Paint - LBP				1
Thermally Safe				
Temperature differential				
Occupant complaints				

Location Type	Kitchen					
Address:					Unit:	
<b>Location Name</b>	:				Location #:	
Dimensions: I	•	W.	Ţ	Date:		

Category:	Walls & C	Ceiling	
Spec#	Unit of Measure	Quantity	Spec Title
17-5355	SF		PATCH PLASTER
Addendum			
17-5210	SF		DRYWALL—PATCH—LARGE
Addendum			
17-5235	SF		LAMINATE 3/8' DRYWALL
Addendum			
17-5270	SF		DRYWALL—1/2"
Addendum			
10-2455	LF		PARTITION—2'x4' NON-BEARING
Addendum			
Addendum			

Category:	Closet		
Spec#	Unit of Measure	Quantity	Spec Title
10 - 4010	EA		CLOSET POLE
Addendum			
10-4015	EA		CLOSET SHELF
Addendum			
Addendum			

Category:	Doors		
Spec#	Unit of Measure	Quantity	Spec Title
10-3255	EA		REHANG INTERIOR DOOR
Addendum			
10-3275	EA		PASSAGE LATCH
Addendum			
10-3345	EA		DOOR—FLUSH INTERIOR HOLLOW CORE
Addendum			
10-3362	EA		DOOR—PREHUNG PASSAGE—SOLID JAMB
Addendum			
10-3300	EA		DOOR STOP—BASEBOARD MOUNT
Addendum			
Addendum			

Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	:					Location #:	
Dimensions: I	•	W.	H·	Date:	_	•	

Category:	Flooring		
Spec #	Unit of Measure	Quantity	Spec Title
5-735	SF		DEMOLITION INTERIORCUSTOM
Addendum			
10-2312	SF		SUBFLOOR—3/4"
Addendum			
20-5920	SF		UNDERLAY AND VINYL COMPOSITION TILE
Addendum			
20-5930	SF		UNDERLAYMENT AND VINYL SHEETGOODS
Addendum			
Addendum			
Addendum			
Category:	Doors		
Spec #	Unit of Measure	Quantity	Spec Title
Addendum			

Category:	Windows	;	
Spec#	Unit of Measure	Quantity	Spec Title
10-2775	EA		SASH LOCK
Addendum			
10-2785	PR		SASH CORDS
Addendum			
10-2795	EA		WINDOW REPAIR
Addendum			
10-2810	EA		REPLACE GLASS—WOOD SASH
Addendum			
10-2982	EA		WINDOWVINYLLOW E DBL HNG DBL GLZ
Addendum			
Addendum			
Addendum			

Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	:				Locati	on #:	,
Dimensions: I	L: V	V:	H:	Date:			

Category:	Painting				
Spec#	Unit of	Quantity	Spec Title		
	Measure		•		
19-5567	SF		PREP & PAINT VACANT ROOM w/ PAINTED TRIM		
Addendum					
19-5568	SF		PREP & PAINT VACANT ROOM w/ NATURAL TRIM		
Addendum					
Addendum					
Addendum					

Category:	Electric		
Spec#	Unit of Measure	Quantity	Spec Title
23-7595	EA		RECEPTACLE—GFCI COUNTERTOP 20 AMP
Addendum			
23-7836	EA		RANGE HOOD EXTERIOR VENTED—ENERGY STAR
Addendum			
23-7675	EA		REPLACE SINGLE POLE LIGHT SWITCH
Addendum			
23-7690	EA		INSTALL SINGLE POLE LIGHT SWITCH
Addendum			
23-7751	EA		ENERGY STAR KITCHEN CEILING FIXTURE
Addendum			
23-7560	EA		RECEPTACLE REPLACE
Addendum			
23-	EA		
Addendum			
23-	EA		
Addendum			

Category:	HVAC		
Spec#	Unit of Measure	Quantity	Spec Title
21-6330	EA		REGISTERREPLACE
Addendum			
Addendum			
Addendum			

Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	•				Loca	tion #:	
Dimensions: L	_:	W:	H:	Date:			

Category:	Integrate	tegrated Pest Management						
Spec #	Unit of Measure	Quantity	Spec Title					
29-8395	DU		INTEGRATED PEST MANAGEMENT					
Addendum								
29-8397	EA		SEAL PEST ENTRY					
Addendum								
Addendum								
Addendum								

Category:	Plumbing	]	
Spec #	Unit of Measure	Quantity	Spec Title
22-6645	EA		SHUT-OFF VALVE
Addendum			
22-6720	EA		TRAPREPLACE
Addendum			
22-6805	EA		REPAIR FAUCETKITCHEN
Addendum			
22-6810	EA		FAUCET—KITCHEN SINGLE LEVER—2.0 GPM
Addendum			
22-6835	EA		SINK—DOUBLE BOWL COMPLETE
Addendum			
22-6830	EA		SINK—SINGLE BOWL COMPLETE
Addendum			
22-	EA		
Addendum			
Addendum			

<b>Hazards and Solutions</b>	Checklist
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Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	:				Locat	ion #:	
Dimensions: L	L:	W:	H:	Date:			

Category:	Miscellar	neous	
Spec #	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			
Addendum			
Addendum			
Addendum			
Addendum			

Location Type	Bathroom	l				
Address:					Unit:	
Location Name	:				Location #:	
Dimensions:		W:	H:	Date:		

#### **Hazard Assessment**

Hazard Assessment	1	ı		T
Principle Shaded cells with ✓ require action	Y	N	<b>Description</b> – Note specific hazards, and potential issues. Items for further testing, professional follow-up.	Severity C = Chronic
Clean			location for faithful tooking, professional follow up.	A = Acute
Cleanable surfaces				
• Clutter				
Hoarding				
Sufficient storage				
Dry				
Signs of moisture				
Active leaks				
High humidity				
Musty odor				
Pest Free				
Signs of pests				
Food sources				
<ul> <li>Access points for pests</li> </ul>				
Safe				
Lighting adequate				
Electrical hazards				
Tripping hazards				
<ul> <li>Accessibility issues</li> </ul>				
Risk for falls				
Secure entry				
Contaminant Free				
ETS				
Deteriorated paint				
ACM				
CO Detectors				
Odors - VOCs				
Ventilated	1			
Fresh air source				
Windows operable				
Odors				
Dampness				
Maintained				
Signs of deferred				
maintenance				
Difficult to maintain				
elements				
Deteriorated Paint - LBP				1
Thermally Safe				
Temperature differential				
Occupant complaints				

Location Type	Bathroom				
Address:				Unit:	
<b>Location Name</b>				Location #:	
Dimensions: 1	· W·	H·	Date:		-

Category:	Walls & C	Ceiling	
Spec #	Unit of Measure	Quantity	Spec Title
17-5355	SF		PATCH PLASTER
Addendum			
17-5210	SF		DRYWALL—PATCH—LARGE
Addendum			
17-5235	SF		LAMINATE 3/8' DRYWALL
Addendum			
17-5270	SF		DRYWALL—1/2"
Addendum			
10-2455	LF		PARTITION—2'x4' NON-BEARING
Addendum			
Addendum			

Category:	Closet			
Spec#	Unit of Measure	Quantity	Spec Title	
10 - 4010	EA		CLOSET POLE	
Addendum				
10-4015	EA		CLOSET SHELF	
Addendum				
Addendum				

Category:	Doors		
Spec#	Unit of Measure	Quantity	Spec Title
10-3255	EA		REHANG INTERIOR DOOR
Addendum			
10-3275	EA		PASSAGE LOCK
Addendum			
10-3280	EA		LOCKSETPRIVACY
Addendum			
10-3345	EA		DOOR—FLUSH INTERIOR HOLLOW CORE
Addendum			
10-3362	EA		DOOR—PREHUNG PASSAGE—SOLID JAMB
Addendum			
10-3300	EA		DOOR STOP—BASEBOARD MOUNT
Addendum			

Location Type	Bathroom						
Address:						Unit:	
<b>Location Name</b>	:				Locati	on #:	
Dimensions: I		W.	H·	Date:			

Category:	Doors		
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			

Category:	Windows	<b>;</b>			
Spec#	Unit of Measure	Quantity	Spec Title		
10-2775	EA		SASH LOCK		
Addendum					
10-2785	PR		SASH CORDS		
Addendum					
10-2795	EA		WINDOW REPAIR		
Addendum					
10-2810	EA		REPLACE GLASS—WOOD SASH		
Addendum					
10-2982	EA		WINDOWVINYLLOW E DBL HNG DBL GLZ		
Addendum					
Addendum					
Addendum					

Category:	Flooring		
Spec #	Unit of Measure	Quantity	Spec Title
5-735	SF		DEMOLITION INTERIORCUSTOM
Addendum			
10-2312	SF		SUBFLOOR—3/4"
Addendum			
18-5423	SF		CERAMIC FLOOR TILE WITH BACKER BOARD OVER WOOD FRAME
Addendum			
18-5405	SF		CERAMIC TILEREGROUT, CAULK
Addendum			
20-5930	SF		UNDERLAYMENT AND VINYL SHEETGOODS
Addendum			
18-5410	SF		CERAMIC TILEREPAIR
Addendum			
Addendum			

Location Type	Bathroom					
Address:					Unit:	
<b>Location Name</b>	•			Locat	tion #:	
Dimensions: L	_: W:	H:	Date:			

Category:	Flooring		
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			

Category:	Painting		
Spec #	Unit of	Quantity	Spec Title
Spec #	Measure	Quartity	Spec Title
19-5567	SF		PREP & PAINT VACANT ROOM w/ PAINTED TRIM
Addendum			
19-5568	SF		PREP & PAINT VACANT ROOM w/ NATURAL TRIM
Addendum			
Addendum			
Addendum			

Category:	Electric		
Spec #	Unit of Measure	Quantity	Spec Title
23-7590	EA		RECEPTACLE—GFCI BATH
Addendum			
23-7819	EA		FAN/LIGHT FIXTURE—ENERGY STAR
Addendum			
23-7675	EA		REPLACE SINGLE POLE LIGHT SWITCH
Addendum			
23-7690	EA		INSTALL SINGLE POLE LIGHT SWITCH
Addendum			
23-7761	EA		ENERGY STAR 2 BULB BATH VANITY FIXTURE
Addendum			
23-7824	EA		BATHROOM FANCONTINUOUSSINGLE SWITCH
Addendum			
23-	EA		
Addendum			
23-	EA		
Addendum			

Category:	HVAC		
Spec#	Unit of Measure	Quantity	Spec Title
21-6330	EA		REGISTERREPLACE
Addendum			

iuzui uo uii	a oolat	.0	COINIGE			
Location Type	Bathroo	om				
Address:					Unit:	
Location Name	e:				Location #:	
Dimensions:	L:	W:	H:	Date:		
Addendum			•			
Addendum						

Category:	Integrate	ntegrated Pest Management			
Spec#	Unit of Measure	Quantity	Spec Title		
29-8395	DU		INTEGRATED PEST MANAGEMENT		
Addendum					
29-8397	EA		SEAL PEST ENTRY		
Addendum					
Addendum					
Addendum					

Category:	Plumbing	]	
Spec #	Unit of Measure	Quantity	Spec Title
22-7005	EA		COMMODE REFURBISH
Addendum			
22-7012	EA		COMMODE REPLACE—1.28 GPF
Addendum			
22-6962	EA		SHOWER SURROUND—5' FIBERGLASS
Addendum			
22-6960	EA		BATHTUB/SHOWER—5' FIBERGLAS—COMPLETE W/GRAB BARS
Addendum			
22-6875	EA		FAUCET—LAVATORY SINGLE LEVER—1.5 GPM
Addendum			
22-6900	EA		VANITY—28" COMPLETE
Addendum			
22-6901	EA		VANITY—30" COMPLETE
Addendum			
22-6935	EA		SHOWER HEAD—2.0 GPM
Addendum			
22-7000	EA		TOILET SEAT
Addendum			
Addendum			

Location Type	Bathroom				
Address:				Unit:	
<b>Location Name</b>	•			Location #:	
Dimensions: L	_: W:	H:	Date:		

Category:	Accessor	ries	
Spec#	Unit of Measure	Quantity	Spec Title
10-3810	EA		TOWEL BAR
Addendum			
10-3825	EA		MEDICINE CABINET—SURFACE MOUNT
Addendum			
10-3835	EA		ACCESSORY SET—4 PIECE CHROME
Addendum			
Addendum			
Addendum			

Category:	Universa	l Design	
Spec #	Unit of Measure	Quantity	Spec Title
10-3937	EA		FIXED SIDE AND REAR WALL GRAB BARS COMMODE
Addendum			
10-3938	EA		FOLD-UP GRAB BARCOMMODE
Addendum			
10-3940	EA		TUB/SHOWER GRAB BAR SET
Addendum			
Addendum			
Addendum			

Category:	Miscellan	Miscellaneous					
Spec#	Unit of Measure	Quantity	Spec Title				
Addendum							
Addendum							
Addendum							

Location Type	Bathroom	athroom						
Address:							Unit:	
<b>Location Name</b>	:					Locat	tion #:	
Dimensions: L	:	W:	H:	Date:				

Category:	Miscellar	Miscellaneous				
Spec #	Unit of Measure	Quantity	Spec Title			
Addendum						
Addendum						
Addendum						

Location Type	Generic I	Seneric Interior Room							
Address:		Unit:							
Location Nam	e:					Location #	•		
Dimensions:	L:	W:	H:	Date:					

#### **Hazard Assessment**

Principle Shaded cells with ✓ require action	Y	N	<b>Description</b> – Note specific hazards, and potential issues. Items for further testing, professional follow-up.	Severity C = Chronic A = Acute
Clean		I		71 Houte
Cleanable surfaces				
• Clutter				
Hoarding				
Sufficient storage				
Dry	1			
Signs of moisture				
Active leaks				
High humidity				
Musty odor				
Pest Free		I		
Signs of pests				
• Food sources				
Access points for pests				
Safe				
Lighting adequate				
Electrical hazards				
Tripping hazards				
Accessibility issues				
• Risk for falls				
Secure entry				
Contaminant Free	I			
ETS				
Deteriorated paint				
ACM				
CO Detectors				
Odors - VOCs				
Ventilated				
Fresh air source				
Windows operable				
Odors				
Dampness				
Maintained				
Signs of deferred				
maintenance				
Difficult to maintain				
elements				
Deteriorated Paint - LBP				
Thermally Safe				
Temperature differential				
Occupant complaints				

Location Type	Generic Ir	Generic Interior Room							
Address:		Unit:							
<b>Location Name</b>	:						Locat	ion #:	
Dimensions:	Ŀ	W:	H:	Date:					

Category:	Walls & C	Ceiling	
Spec#	Unit of Measure	Quantity	Spec Title
17-5355	SF		PATCH PLASTER
Addendum			
17-5210	SF		DRYWALL—PATCH—LARGE
Addendum			
17-5235	SF		LAMINATE 3/8' DRYWALL
Addendum			
17-5270	SF		DRYWALL—1/2"
Addendum			
10-2455	LF		PARTITION—2'x4' NON-BEARING
Addendum			
Addendum			

Category:	Closet		
Spec#	Unit of Measure	Quantity	Spec Title
10 - 4010	EA		CLOSET POLE
Addendum			
10-4015	EA		CLOSET SHELF
Addendum			
Addendum			

Category:	Doors		
Spec#	Unit of Measure	Quantity	Spec Title
10-3255	EA		REHANG INTERIOR DOOR
Addendum			
10-3275	EA		PASSAGE LOCK
Addendum			
10-3280	EA		LOCKSETBEDROOM
Addendum			
10-3345	EA		DOOR—FLUSH INTERIOR HOLLOW CORE
Addendum			
10-3362	EA		DOOR—PREHUNG PASSAGE—SOLID JAMB
Addendum			
10-3300	EA		DOOR STOP—BASEBOARD MOUNT

Location Type	Generic Int	eneric Interior Room					
Address:						Unit:	
<b>Location Name</b>	•					Location #:	
Dimensions: L	_:	W:	H:	Date:			•

Category:	Doors		
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			
Addendum			

Category:	Windows	i	
Spec#	Unit of Measure	Quantity	Spec Title
10-2775	EA		SASH LOCK
Addendum			
10-2785	PR		SASH CORDS
Addendum			
10-2795	EA		WINDOW REPAIR
Addendum			
10-2810	EA		REPLACE GLASS—WOOD SASH
Addendum			
10-2982	EA		WINDOWVINYLLOW E DBL HNG DBL GLZ
Addendum			
Addendum			
Addendum			

Category:	Flooring		
Spec#	Unit of Measure	Quantity	Spec Title
5-708	SF		REMOVE CARPET AND PAD
Addendum			
10-2312	SF		SUBFLOOR—3/4"
Addendum			
10-2355	SF		FLOOR—REPAIR TONGUE AND GROOVE
Addendum			
10-2351	SF		FLOOR—REFINISH WOOD LOW VOC
Addendum			
20-5920	SF		UNDERLAYMENT AND VINYL COMPOSITION TILE
Addendum			
Addendum			

Location Type	Generic I	Generic Interior Room							
Address:		Unit:							
Location Nam	ie:						Locat	ion #:	
Dimensions:	L:	W:	H:	Date:			•	•	

Category:	Flooring		
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			

Category:	Painting		
Spec#	Unit of Measure	Quantity	Spec Title
19-5567	SF		PREP & PAINT VACANT ROOM w/ PAINTED TRIM
Addendum			
19-5568	SF		PREP & PAINT VACANT ROOM w/ NATURAL TRIM
Addendum			
Addendum			
Addendum			

Category:	Electric		
Spec#	Unit of Measure	Quantity	Spec Title
23-7560	EA		REPLACE RECEPTACLE
Addendum			
23-7565	EA		INSTALL NEW RECEPTACLE—15 AMP
Addendum			
23-7675	EA		REPLACE SINGLE POLE LIGHT SWITCH
Addendum			
23-7690	EA		INSTALL SINGLE POLE LIGHT SWITCH
Addendum			
23-7752	EA		ENERGY STAR INTERIOR CEILING FIXTURE
Addendum			
23-7753	EA		ENERGY STAR INTERIOR WALL FIXTURE
Addendum			
23-7715	EA		FIXTURE & 3-WAY SWITCHS—ENERGY STAR 1 LAMP
Addendum			
23-7810	EA		SMOKE ALARM—HARD WIRED—BATTERY BACK-UP
Addendum			
23-8722	EA		CARBON MONOXIDE ALARM—DIGITAL DISPLAY
Addendum			
23-	EA		
Addendum			
23-	EA		
Addendum			

Location Type	Generic I	Generic Interior Room					
Address:						Unit:	
Location Nam	e:				L	_ocation #:	
Dimensions:	L:	W:	H:	Date:			

Category:	HVAC		
Spec#	Unit of Measure	Quantity	Spec Title
21-6380	EA		PROGRAMMABLE THERMOSTAT
Addendum			
21-6330	EA		REGISTERREPLACE
Addendum			
Addendum			
Addendum			

Category:	Integrate	ntegrated Pest Management				
Spec#	Unit of Measure	Quantity	Spec Title			
29-8395	DU		INTEGRATED PEST MANAGEMENT			
Addendum						
29-8397	EA		SEAL PEST ENTRY			
Addendum						
Addendum						
Addendum						

Category:	Miscellan	eous	
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			
Addendum			
Addendum			
Addendum			
Addendum			

Location Type	Exterior					
Address:					Unit:	
Location Name	:				Location #:	
Dimensions: I	_:	W:	H:	Date:		

#### **Hazard Assessment**

Hazaru Assessment			<b>Description</b> – Note specific hazards, and	Carranit
<b>Principle</b> Shaded cells with ✓ require action	Υ	N	potential issues. Items for further testing, professional follow-up.	Severit C = Chroni A = Acute
Clean			professional follow-up.	A = Acuto
Cleanable exterior surfaces				
Clutter				
Hoarding				
Sufficient exterior storage				
Dry				
Poor drainage/grading				
Active gutter/downspout leaks				
Leaks in bldg. envelope				
Musty odor				
Pest Free		I		
Signs of pests				
• Food sources				
Access points for pests				
Safe		l		
Lighting adequate				
Electrical hazards				
Tripping hazards				
Accessibility issues				
Risk for falls				
Secure entry				
Contaminant Free				
Chemical storage				
Deteriorated paint				
ACM				
Odors - VOCs				
Ventilated	Т			
Maintained		1		
Signs of deferred maintenance				
Difficult to maintain elements				
Deteriorated Paint - LBP				
Thermally Safe		ı		
Temperature differential				
Occupant complaints				

Location Type	Exterior						
Address:						Unit:	
<b>Location Name</b>	: :					Location #:	
Dimensions: I		W.	÷.	Date:	_		•

Category:	Roofing and Gutters					
Spec #	Unit of Measure	Quantity	Spec Title			
15-4635	LF		GUTTER/DWNSPOUT5" K STYLE SEAMLESS ALUM			
Addendum						
15-4567	SF		ROOF—REPAIR SHINGLES			
Addendum						
15-4580	SQ		REROOF—FIBERGLASS SHINGLES			
Addendum						
15-4755	LF		FACIA 1X6			
Addendum						
15-4546	SQ		EPDM—FULLY ADHEARED			
Addendum						
15-4760	LF		SOFFIT			
Addendum						
Addendum						

Category:	Exterior Walls/Cladding					
Spec #	Unit of Measure	Quantity	Spec Title			
10 - 2640	SQ		SIDINGVINYL			
Addendum						
7-1230	SF		MASONRYREPOINT			
Addendum						
7-1235	SF		BRICK WALL REPAIR			
Addendum						
С	SF		SIDINGCLAPBOARD REPLACE			
Addendum						
10-2645	SF		TRIMWRAP WITH VINYL			
Addendum						
Addendum						
Addendum						

Location Type	Exterior					
Address:					Unit:	
<b>Location Name</b>	:				Location #:	
Dimensions: I	•	W.	÷.	Date:		

Category:	Porches, Steps & Walks					
Spec #	Unit of Measure	Quantity	Spec Title			
10-3585	EA		TREAD REPLACEMENTEXTERIOR			
Addendum						
10-3590	RI		STAIRCASEWOODREPLACE EXTERIOR			
Addendum						
6-1035	SF		STEPSREPAIR CONCRETE			
Addendum						
6-1045	RI		STEPS AND LANDINGSCONCRETE			
Addendum						
10-3465	SF		DECKTONGUE AND GROOVE			
Addendum						
10-3505	SF		PORCH CEILINGT&G			
Addendum						
10-3470	EA		POST4"X 4"			
Addendum						
10-3560	SF		PORCHREBUILD			
Addendum						
10-3515	LF		PORCH GUARD RAIL REPAIR-WOOD			
Addendum						
10-3522	LF		WOOD STAIR HANDRAILREPLACE EXT			
Addendum						
10-3525	LF		GUARD RAILWOOD			
Addendum						
10-1460	LF		METAL GUARD RAILSTEEL			
Addendum		1				
6-905	SF		CONCRETE SLABPATCH			
Addendum						
6-1034	SF		SIDEWALKCONCRETE REPLACE			
Addendum						
Addendum						
Addendum						

Location Type	Exterior					
Address:					Unit:	
Location Name	e:				Location #:	
Dimensions:	1 •	W.	H·	Date:	•	•

Category:	Windows	& Doors	
Spec #	Unit of Measure	Quantity	Spec Title
10-2978	EA		WINDOW REPLACEVINYL DBL HNG ENERGY STAR - W/TRIM < 100 UI
Addendum			
10-3065	EA		DOOR—REHANG EXTERIOR
Addendum			
10-3185	EA		DOORPREHUNG METAL ENTRANCE
Addendum			
10-3805	EA		DOORMETAL BASEMENT HATCHWAY
Addendum			
10-3150	EA		DOOREXTERIOR PANELED
Addendum			
Addendum			
Addendum			

Category:	Painting		
Spec #	Unit of Measure	Quantity	Spec Title
19-5785	SF		PREP & PAINT EXTERIOR MASONRY
Addendum			
19-5679	SF		PREP & PAINT EXTERIOR WOODLOW VOC
Addendum			
19-5677	SF		PREP & PAINT EXTERIOR TRIM-LOW VOC
Addendum			
Addendum			
Addendum			

Location Type	Exterior						
Address:						Unit:	
<b>Location Name</b>						Location #:	
Dimensions: I		W.	H·	Date:	_		

Category:	Electrica		
Spec #	Unit of Measure	Quantity	Spec Title
23-7640	EA		WEATHERPROOF RECEPTACLE
Addendum			
23-8162	EA		ENTRANCE LIGHTENERGY STAR
Addendum			
23-8166	EA		EXTERIOR FLOOD LIGHT REPLACEENERGY STAR
Addendum			
23-8165	EA		ENTRANCE LIGHT FIXTUREREPLACE
Addendum			
	EA		
Addendum			
	EA		
Addendum			

Category:	Miscellar	Miscellaneous				
Spec #	Unit of Measure	Quantity	Spec Title			
10-3875	EA		HOUSE NUMBER SET			
Addendum						
10-3885	EA		MAILBOX			
Addendum						
5-750	SF		DEMO OUTBUILDING			
Addendum						
Addendum						

Category:	Yard		
Spec #	Unit of Measure	Quantity	Spec Title
4-417	SF		RESEEDFINE FESCUE
Addendum			
4-450	SF		REGRADE FOUNDATIONRESOD
Addendum			
4-420	SY		SOD
Addendum			
6-855	SF		DEMO CONCRETE
Addendum			
Addendum			

# **Exercise 6: Hazards and Solutions Checklist**

Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	:				Locati	on #:	,
Dimensions: I	L: V	V:	H:	Date:			

#### **Hazard Assessment**

Principle Shaded cells with ✓ require action	Y	N	<b>Description</b> – Note specific hazards, and potential issues. Items for further testing, professional follow-up.	Severity C = Chronic A = Acute
Clean	1	1		A - Acute
Cleanable surfaces				
• Clutter				
Hoarding				
Sufficient storage				
Dry	1			
Signs of moisture				
Active leaks				
High humidity				
Musty odor				
Pest Free				
Signs of pests				
Food sources				
Access points for pests				
Safe				
Lighting adequate				
Electrical hazards				
Tripping hazards				
Accessibility issues				
Risk for falls				
Secure entry				
Contaminant Free	1			
ETS				
Deteriorated paint				
ACM				
CO Detectors				
Odors - VOCs				
Ventilated				
Fresh air source				
Windows operable				
Odors				
Dampness				
Maintained				
Signs of deferred				
maintenance				
Difficult to maintain				
elements				
Deteriorated Paint - LBP				
Thermally Safe		1		
Temperature differential				
Occupant complaints				

Location Type	Kitchen					
Address:					Unit:	
<b>Location Name</b>	:				Location #:	
Dimensions: I	•	W.	Ţ	Date:		

Category:	Walls & C	Ceiling	
Spec#	Unit of Measure	Quantity	Spec Title
17-5355	SF		PATCH PLASTER
Addendum			
17-5210	SF		DRYWALL—PATCH—LARGE
Addendum			
17-5235	SF		LAMINATE 3/8' DRYWALL
Addendum			
17-5270	SF		DRYWALL—1/2"
Addendum			
10-2455	LF		PARTITION—2'x4' NON-BEARING
Addendum			
Addendum			

Category:	Closet		
Spec#	Unit of Measure	Quantity	Spec Title
10 - 4010	EA		CLOSET POLE
Addendum			
10-4015	EA		CLOSET SHELF
Addendum			
Addendum			

Category:	Doors					
Spec#	Unit of Measure	Quantity	Spec Title			
10-3255	EA		REHANG INTERIOR DOOR			
Addendum						
10-3275	EA		PASSAGE LATCH			
Addendum						
10-3345	EA		DOOR—FLUSH INTERIOR HOLLOW CORE			
Addendum						
10-3362	EA		DOOR—PREHUNG PASSAGE—SOLID JAMB			
Addendum						
10-3300	EA		DOOR STOP—BASEBOARD MOUNT			
Addendum						
Addendum						

Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	:					Location #:	
Dimensions: I		W.	H·	Date:	_	•	

Category:	Flooring					
Spec #	Unit of Measure	Quantity	Spec Title			
5-735	SF		DEMOLITION INTERIORCUSTOM			
Addendum						
10-2312	SF		SUBFLOOR—3/4"			
Addendum						
20-5920	SF		UNDERLAY AND VINYL COMPOSITION TILE			
Addendum						
20-5930	SF		UNDERLAYMENT AND VINYL SHEETGOODS			
Addendum						
Addendum						
Addendum						
Category:	Doors					
Spec #	Unit of Measure	Quantity	Spec Title			
Addendum						

Category:	Windows	;				
Spec#	Unit of Measure	Quantity	Spec Title			
10-2775	EA		SASH LOCK			
Addendum						
10-2785	PR		SASH CORDS			
Addendum						
10-2795	EA		WINDOW REPAIR			
Addendum						
10-2810	EA		REPLACE GLASS—WOOD SASH			
Addendum						
10-2982	EA		WINDOWVINYLLOW E DBL HNG DBL GLZ			
Addendum						
Addendum						
Addendum						

Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	:				Locati	on #:	,
Dimensions: I	L: V	V:	H:	Date:			

Category:	Painting		
Spec #	Unit of	Quantity	Spec Title
	Measure		•
19-5567	SF		PREP & PAINT VACANT ROOM w/ PAINTED TRIM
Addendum			
19-5568	SF		PREP & PAINT VACANT ROOM w/ NATURAL TRIM
Addendum			
Addendum			
Addendum			

Category:	Electric		
Spec#	Unit of Measure	Quantity	Spec Title
23-7595	EA		RECEPTACLE—GFCI COUNTERTOP 20 AMP
Addendum			
23-7836	EA		RANGE HOOD EXTERIOR VENTED—ENERGY STAR
Addendum			
23-7675	EA		REPLACE SINGLE POLE LIGHT SWITCH
Addendum			
23-7690	EA		INSTALL SINGLE POLE LIGHT SWITCH
Addendum			
23-7751	EA		ENERGY STAR KITCHEN CEILING FIXTURE
Addendum			
23-7560	EA		RECEPTACLE REPLACE
Addendum			
23-	EA		
Addendum			
23-	EA		
Addendum			

Category:	HVAC		
Spec#	Unit of Measure	Quantity	Spec Title
21-6330	EA		REGISTERREPLACE
Addendum			
Addendum			
Addendum			

Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	•				Loca	tion #:	
Dimensions: L	_:	W:	H:	Date:			

Category:	Integrate	Integrated Pest Management				
Spec #	Unit of Measure	Quantity	Spec Title			
29-8395	DU		INTEGRATED PEST MANAGEMENT			
Addendum						
29-8397	EA		SEAL PEST ENTRY			
Addendum						
Addendum						
Addendum						

Category:	Plumbing	]				
Spec #	Unit of Measure	Quantity	Spec Title			
22-6645	EA		SHUT-OFF VALVE			
Addendum						
22-6720	EA		TRAPREPLACE			
Addendum						
22-6805	EA		REPAIR FAUCETKITCHEN			
Addendum						
22-6810	EA		FAUCET—KITCHEN SINGLE LEVER—2.0 GPM			
Addendum						
22-6835	EA		SINK—DOUBLE BOWL COMPLETE			
Addendum						
22-6830	EA		SINK—SINGLE BOWL COMPLETE			
Addendum						
22-	EA					
Addendum						
Addendum						

<b>Hazards and Solutions</b>	Checklist
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Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	:				Locat	ion #:	
Dimensions: L	L:	W:	H:	Date:			

Category:	Miscellar	neous	
Spec #	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			
Addendum			
Addendum			
Addendum			
Addendum			

#### Module 2 – Home Assessment Exercise 7: Preparing for Success

List the steps you can take ahead of time to ensure the success of on your onsite assessment, including what tools you will need and what information you should gather about the physical structure as well as about the residents and/or property owner.

About the Building (background, environmental tests)	Tools	About the residents and/or owner

Location Type	Exterior					
Address:					Unit	i:
Location Name	:				Location #	:
Dimensions: L	_:	W:	H:	Date:		

#### **Hazard Assessment**

Hazaru Assessment			<b>Description</b> – Note specific hazards, and	Consort
<b>Principle</b> Shaded cells with ✓ require action	Υ	N	potential issues. Items for further testing, professional follow-up.	Severit C = Chroni A = Acute
Clean			professional follow-up.	A = Acuto
Cleanable exterior surfaces				
Clutter				
Hoarding				
Sufficient exterior storage				
Dry				
Poor drainage/grading				
Active gutter/downspout leaks				
Leaks in bldg. envelope				
Musty odor				
Pest Free		I		
• Signs of pests				
• Food sources				
Access points for pests				
Safe				
Lighting adequate				
Electrical hazards				
Tripping hazards				
Accessibility issues				
Risk for falls				
Secure entry				
Contaminant Free				
Chemical storage				
Deteriorated paint				
ACM				
Odors - VOCs				
Ventilated	1			
Maintained				
Signs of deferred maintenance				
Difficult to maintain elements				
Deteriorated Paint - LBP				
Thermally Safe				
Temperature differential				
Occupant complaints				

Location Type	Exterior						
Address:						Unit:	
<b>Location Name</b>						Location #:	
Dimensions: I		W.	H·	Date:	_		

Category:	Roofing a	Roofing and Gutters					
Spec #	Unit of Measure	Quantity	Spec Title				
15-4635	LF		GUTTER/DWNSPOUT5" K STYLE SEAMLESS ALUM				
Addendum							
15-4567	SF		ROOF—REPAIR SHINGLES				
Addendum							
15-4580	SQ		REROOF—FIBERGLASS SHINGLES				
Addendum							
15-4755	LF		FACIA 1X6				
Addendum							
15-4546	SQ		EPDM—FULLY ADHEARED				
Addendum							
15-4760	LF		SOFFIT				
Addendum							
Addendum							

Category:	Exterior \	Nalls/Clac	lding
Spec #	Unit of Measure	Quantity	Spec Title
10 - 2640	SQ		SIDINGVINYL
Addendum			
7-1230	SF		MASONRYREPOINT
Addendum			
7-1235	SF		BRICK WALL REPAIR
Addendum			
С	SF		SIDINGCLAPBOARD REPLACE
Addendum			
10-2645	SF		TRIMWRAP WITH VINYL
Addendum			
Addendum			
Addendum			

Location Type	Exterior					
Address:					Unit:	
<b>Location Name</b>	:				Location #:	
Dimensions: I	•	W.	÷.	Date:		

Category:	Porches,	Steps & V	Valks
Spec #	Unit of Measure	Quantity	Spec Title
10-3585	EA		TREAD REPLACEMENTEXTERIOR
Addendum			
10-3590	RI		STAIRCASEWOODREPLACE EXTERIOR
Addendum			
6-1035	SF		STEPSREPAIR CONCRETE
Addendum			
6-1045	RI		STEPS AND LANDINGSCONCRETE
Addendum			
10-3465	SF		DECKTONGUE AND GROOVE
Addendum			
10-3505	SF		PORCH CEILINGT&G
Addendum			
10-3470	EA		POST4"X 4"
Addendum			
10-3560	SF		PORCHREBUILD
Addendum			
10-3515	LF		PORCH GUARD RAIL REPAIR-WOOD
Addendum			
10-3522	LF		WOOD STAIR HANDRAILREPLACE EXT
Addendum			
10-3525	LF		GUARD RAILWOOD
Addendum			
10-1460	LF		METAL GUARD RAILSTEEL
Addendum			
6-905	SF		CONCRETE SLABPATCH
Addendum			
6-1034	SF		SIDEWALKCONCRETE REPLACE
Addendum			
Addendum			
Addendum			

Location Type	Exterior					
Address:					Unit:	
Location Name	e:				Location #:	
Dimensions:	1 •	W.	H·	Date:	•	•

Category:	Windows	& Doors	
Spec #	Unit of Measure	Quantity	Spec Title
10-2978	EA		WINDOW REPLACEVINYL DBL HNG ENERGY STAR - W/TRIM < 100 UI
Addendum			
10-3065	EA		DOOR—REHANG EXTERIOR
Addendum			
10-3185	EA		DOORPREHUNG METAL ENTRANCE
Addendum			
10-3805	EA		DOORMETAL BASEMENT HATCHWAY
Addendum			
10-3150	EA		DOOREXTERIOR PANELED
Addendum			
Addendum			
Addendum			

Category:	Painting		
Spec #	Unit of Measure	Quantity	Spec Title
19-5785	SF		PREP & PAINT EXTERIOR MASONRY
Addendum			
19-5679	SF		PREP & PAINT EXTERIOR WOODLOW VOC
Addendum			
19-5677	SF		PREP & PAINT EXTERIOR TRIM-LOW VOC
Addendum			
Addendum			
Addendum			

Location Type	Exterior						
Address:						Unit:	
<b>Location Name</b>						Location #:	
Dimensions: I		W.	H·	Date:	_		

Category:	Electrica		
Spec #	Unit of Measure	Quantity	Spec Title
23-7640	EA		WEATHERPROOF RECEPTACLE
Addendum			
23-8162	EA		ENTRANCE LIGHTENERGY STAR
Addendum			
23-8166	EA		EXTERIOR FLOOD LIGHT REPLACEENERGY STAR
Addendum			
23-8165	EA		ENTRANCE LIGHT FIXTUREREPLACE
Addendum			
	EA		
Addendum			
	EA		
Addendum			

Category:	Miscellar	neous					
Spec #	Unit of Measure	Quantity	Spec Title				
10-3875	EA		HOUSE NUMBER SET				
Addendum							
10-3885	EA		MAILBOX				
Addendum							
5-750	SF		DEMO OUTBUILDING				
Addendum							
Addendum							

Category:	Yard		
Spec #	Unit of Measure	Quantity	Spec Title
4-417	SF		RESEEDFINE FESCUE
Addendum			
4-450	SF		REGRADE FOUNDATIONRESOD
Addendum			
4-420	SY		SOD
Addendum			
6-855	SF		DEMO CONCRETE
Addendum			
Addendum			

Location Type	Bathroom	l				
Address:					Unit:	
Location Name	:				Location #:	
Dimensions:		W:	H:	Date:		

#### **Hazard Assessment**

Hazard Assessment	1	ı		T
Principle Shaded cells with ✓ require action	Υ	N	<b>Description</b> – Note specific hazards, and potential issues. Items for further testing, professional follow-up.	Severity C = Chronic
Clean			location for faithful tooking, professional follow up.	A = Acute
Cleanable surfaces				
• Clutter				
Hoarding				
Sufficient storage				
Dry				
Signs of moisture				
Active leaks				
High humidity				
Musty odor				
Pest Free				
Signs of pests				
Food sources				
<ul> <li>Access points for pests</li> </ul>				
Safe				
Lighting adequate				
Electrical hazards				
Tripping hazards				
<ul> <li>Accessibility issues</li> </ul>				
Risk for falls				
Secure entry				
Contaminant Free				
ETS				
Deteriorated paint				
ACM				
CO Detectors				
Odors - VOCs				
Ventilated	1			
Fresh air source				
Windows operable				
Odors				
Dampness				
Maintained				
Signs of deferred				
maintenance				
Difficult to maintain				
elements				
Deteriorated Paint - LBP				1
Thermally Safe				
Temperature differential				
Occupant complaints				

Location Type	Bathroom				
Address:				Unit:	
<b>Location Name</b>				Location #:	
Dimensions: 1	· W·	H·	Date:		-

Category:	Walls & C	Ceiling	
Spec #	Unit of Measure	Quantity	Spec Title
17-5355	SF		PATCH PLASTER
Addendum			
17-5210	SF		DRYWALL—PATCH—LARGE
Addendum			
17-5235	SF		LAMINATE 3/8' DRYWALL
Addendum			
17-5270	SF		DRYWALL—1/2"
Addendum			
10-2455	LF		PARTITION—2'x4' NON-BEARING
Addendum			
Addendum			

Category:	Closet			
Spec#	Unit of Measure	Quantity	Spec Title	
10 - 4010	EA		CLOSET POLE	
Addendum				
10-4015	EA		CLOSET SHELF	
Addendum				
Addendum				

Category:	Doors		
Spec#	Unit of Measure	Quantity	Spec Title
10-3255	EA		REHANG INTERIOR DOOR
Addendum			
10-3275	EA		PASSAGE LOCK
Addendum			
10-3280	EA		LOCKSETPRIVACY
Addendum			
10-3345	EA		DOOR—FLUSH INTERIOR HOLLOW CORE
Addendum			
10-3362	EA		DOOR—PREHUNG PASSAGE—SOLID JAMB
Addendum			
10-3300	EA		DOOR STOP—BASEBOARD MOUNT
Addendum			

Location Type	Bathroom						
Address:						Unit:	
<b>Location Name</b>	:				Locati	on #:	
Dimensions: I		W.	H·	Date:			

Category:	Doors		
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			

Category:	Windows	<b>;</b>			
Spec#	Unit of Measure	Quantity	Spec Title		
10-2775	EA		SASH LOCK		
Addendum					
10-2785	PR		SASH CORDS		
Addendum					
10-2795	EA		WINDOW REPAIR		
Addendum					
10-2810	EA		REPLACE GLASS—WOOD SASH		
Addendum					
10-2982	EA		WINDOWVINYLLOW E DBL HNG DBL GLZ		
Addendum					
Addendum					
Addendum					

Category:	Flooring		
Spec#	Unit of Measure	Quantity	Spec Title
5-735	SF		DEMOLITION INTERIORCUSTOM
Addendum			
10-2312	SF		SUBFLOOR—3/4"
Addendum			
18-5423	SF		CERAMIC FLOOR TILE WITH BACKER BOARD OVER WOOD FRAME
Addendum			
18-5405	SF		CERAMIC TILEREGROUT, CAULK
Addendum			
20-5930	SF		UNDERLAYMENT AND VINYL SHEETGOODS
Addendum			
18-5410	SF		CERAMIC TILEREPAIR
Addendum			
Addendum			

Location Type	Bathroom					
Address:					Unit:	
<b>Location Name</b>	•			Locat	tion #:	
Dimensions: L	_: W:	H:	Date:			

Category:	Flooring		
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			

Category:	Painting		
Spec #	Unit of	Quantity	Spec Title
Spec #	Measure	Quartity	Spec Title
19-5567	SF		PREP & PAINT VACANT ROOM w/ PAINTED TRIM
Addendum			
19-5568	SF		PREP & PAINT VACANT ROOM w/ NATURAL TRIM
Addendum			
Addendum			
Addendum			

Category:	Electric		
Spec #	Unit of Measure	Quantity	Spec Title
23-7590	EA		RECEPTACLE—GFCI BATH
Addendum			
23-7819	EA		FAN/LIGHT FIXTURE—ENERGY STAR
Addendum			
23-7675	EA		REPLACE SINGLE POLE LIGHT SWITCH
Addendum			
23-7690	EA		INSTALL SINGLE POLE LIGHT SWITCH
Addendum			
23-7761	EA		ENERGY STAR 2 BULB BATH VANITY FIXTURE
Addendum			
23-7824	EA		BATHROOM FANCONTINUOUSSINGLE SWITCH
Addendum			
23-	EA		
Addendum			
23-	EA		
Addendum			

Category:	HVAC		
Spec#	Unit of Measure	Quantity	Spec Title
21-6330	EA		REGISTERREPLACE
Addendum			

iuzui uo uii	a oolat	.0	COINIGE			
Location Type	Bathroo	om				
Address:					Unit:	
Location Name	e:				Location #:	
Dimensions:	L:	W:	H:	Date:		
Addendum			•			
Addendum						

Category:	Integrate	ntegrated Pest Management			
Spec#	Unit of Measure	Quantity	Spec Title		
29-8395	DU		INTEGRATED PEST MANAGEMENT		
Addendum					
29-8397	EA		SEAL PEST ENTRY		
Addendum					
Addendum					
Addendum					

Category:	Plumbing	]	
Spec #	Unit of Measure	Quantity	Spec Title
22-7005	EA		COMMODE REFURBISH
Addendum			
22-7012	EA		COMMODE REPLACE—1.28 GPF
Addendum			
22-6962	EA		SHOWER SURROUND—5' FIBERGLASS
Addendum			
22-6960	EA		BATHTUB/SHOWER—5' FIBERGLAS—COMPLETE W/GRAB BARS
Addendum			
22-6875	EA		FAUCET—LAVATORY SINGLE LEVER—1.5 GPM
Addendum			
22-6900	EA		VANITY—28" COMPLETE
Addendum			
22-6901	EA		VANITY—30" COMPLETE
Addendum			
22-6935	EA		SHOWER HEAD—2.0 GPM
Addendum			
22-7000	EA		TOILET SEAT
Addendum			
Addendum			

Location Type	Bathroom				
Address:				Unit:	
<b>Location Name</b>	•			Location #:	
Dimensions: L	_: W:	H:	Date:		

Category:	Accessor	ries	
Spec#	Unit of Measure	Quantity	Spec Title
10-3810	EA		TOWEL BAR
Addendum			
10-3825	EA		MEDICINE CABINET—SURFACE MOUNT
Addendum			
10-3835	EA		ACCESSORY SET—4 PIECE CHROME
Addendum			
Addendum			
Addendum			

Category:	Universa	l Design	
Spec #	Unit of Measure	Quantity	Spec Title
10-3937	EA		FIXED SIDE AND REAR WALL GRAB BARS COMMODE
Addendum			
10-3938	EA		FOLD-UP GRAB BARCOMMODE
Addendum			
10-3940	EA		TUB/SHOWER GRAB BAR SET
Addendum			
Addendum			
Addendum			

Category:	Miscellan	eous	
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			
Addendum			

Location Type	Bathroom	throom						
Address:							Unit:	
<b>Location Name</b>	:					Locat	tion #:	
Dimensions: L	:	W:	H:	Date:				

Category:	Miscellar	eous	
Spec #	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			
Addendum			

Location Type	Kitchen					
Address:					Unit:	
Location Name	:				Location #:	
Dimensions:	•	W.	H·	Date:		

#### **Hazard Assessment**

Hazard Assessment	1	ı		T
Principle Shaded cells with ✓ require action	Υ	N	<b>Description</b> – Note specific hazards, and potential issues. Items for further testing, professional follow-up.	Severity C = Chronic
Clean			location for faithful tooking, professional follow up.	A = Acute
Cleanable surfaces				
• Clutter				
Hoarding				
Sufficient storage				
Dry				
Signs of moisture				
Active leaks				
High humidity				
Musty odor				
Pest Free				
Signs of pests				
Food sources				
<ul> <li>Access points for pests</li> </ul>				
Safe				
Lighting adequate				
Electrical hazards				
Tripping hazards				
<ul> <li>Accessibility issues</li> </ul>				
Risk for falls				
Secure entry				
Contaminant Free				
ETS				
Deteriorated paint				
ACM				
CO Detectors				
Odors - VOCs				
Ventilated	1			
Fresh air source				
Windows operable				
Odors				
Dampness				
Maintained				
Signs of deferred				
maintenance				
Difficult to maintain				
elements				
Deteriorated Paint - LBP				1
Thermally Safe				
Temperature differential				
Occupant complaints				

Location Type	Kitchen					
Address:					Unit:	
<b>Location Name</b>	:				Location #:	
Dimensions: I	•	W.	Ţ	Date:		

Category:	Walls & C	Ceiling	
Spec#	Unit of Measure	Quantity	Spec Title
17-5355	SF		PATCH PLASTER
Addendum			
17-5210	SF		DRYWALL—PATCH—LARGE
Addendum			
17-5235	SF		LAMINATE 3/8' DRYWALL
Addendum			
17-5270	SF		DRYWALL—1/2"
Addendum			
10-2455	LF		PARTITION—2'x4' NON-BEARING
Addendum			
Addendum			

Category:	Closet		
Spec#	Unit of Measure	Quantity	Spec Title
10 - 4010	EA		CLOSET POLE
Addendum			
10-4015	EA		CLOSET SHELF
Addendum			
Addendum			

Category:	Doors		
Spec#	Unit of Measure	Quantity	Spec Title
10-3255	EA		REHANG INTERIOR DOOR
Addendum			
10-3275	EA		PASSAGE LATCH
Addendum			
10-3345	EA		DOOR—FLUSH INTERIOR HOLLOW CORE
Addendum			
10-3362	EA		DOOR—PREHUNG PASSAGE—SOLID JAMB
Addendum			
10-3300	EA		DOOR STOP—BASEBOARD MOUNT
Addendum			
Addendum			

Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	:					Location #:	
Dimensions: I		W.	H·	Date:	_	•	

Category:	Flooring		
Spec #	Unit of Measure	Quantity	Spec Title
5-735	SF		DEMOLITION INTERIORCUSTOM
Addendum			
10-2312	SF		SUBFLOOR—3/4"
Addendum			
20-5920	SF		UNDERLAY AND VINYL COMPOSITION TILE
Addendum			
20-5930	SF		UNDERLAYMENT AND VINYL SHEETGOODS
Addendum			
Addendum			
Addendum			
Category:	Doors		
Spec #	Unit of Measure	Quantity	Spec Title
Addendum			

Category:	Windows	;	
Spec#	Unit of Measure	Quantity	Spec Title
10-2775	EA		SASH LOCK
Addendum			
10-2785	PR		SASH CORDS
Addendum			
10-2795	EA		WINDOW REPAIR
Addendum			
10-2810	EA		REPLACE GLASS—WOOD SASH
Addendum			
10-2982	EA		WINDOWVINYLLOW E DBL HNG DBL GLZ
Addendum			
Addendum			
Addendum			

Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	:				Locati	on #:	,
Dimensions: I	L: V	V:	H:	Date:			

Category:	Painting		
Spec #	Unit of	Quantity	Spec Title
	Measure		•
19-5567	SF		PREP & PAINT VACANT ROOM w/ PAINTED TRIM
Addendum			
19-5568	SF		PREP & PAINT VACANT ROOM w/ NATURAL TRIM
Addendum			
Addendum			
Addendum			

Category:	Electric		
Spec#	Unit of Measure	Quantity	Spec Title
23-7595	EA		RECEPTACLE—GFCI COUNTERTOP 20 AMP
Addendum			
23-7836	EA		RANGE HOOD EXTERIOR VENTED—ENERGY STAR
Addendum			
23-7675	EA		REPLACE SINGLE POLE LIGHT SWITCH
Addendum			
23-7690	EA		INSTALL SINGLE POLE LIGHT SWITCH
Addendum			
23-7751	EA		ENERGY STAR KITCHEN CEILING FIXTURE
Addendum			
23-7560	EA		RECEPTACLE REPLACE
Addendum			
23-	EA		
Addendum			
23-	EA		
Addendum			

Category:	HVAC		
Spec#	Unit of Measure	Quantity	Spec Title
21-6330	EA		REGISTERREPLACE
Addendum			
Addendum			
Addendum			

Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	•				Loca	tion #:	
Dimensions: L	_:	W:	H:	Date:			

Category:	Integrate	ntegrated Pest Management					
Spec #	Unit of Measure	Quantity	Spec Title				
29-8395	DU		INTEGRATED PEST MANAGEMENT				
Addendum							
29-8397	EA		SEAL PEST ENTRY				
Addendum							
Addendum							
Addendum							

Category:	Plumbing	]	
Spec #	Unit of Measure	Quantity	Spec Title
22-6645	EA		SHUT-OFF VALVE
Addendum			
22-6720	EA		TRAPREPLACE
Addendum			
22-6805	EA		REPAIR FAUCETKITCHEN
Addendum			
22-6810	EA		FAUCET—KITCHEN SINGLE LEVER—2.0 GPM
Addendum			
22-6835	EA		SINK—DOUBLE BOWL COMPLETE
Addendum			
22-6830	EA		SINK—SINGLE BOWL COMPLETE
Addendum			
22-	EA		
Addendum			
Addendum			

<b>Hazards and Solutions</b>	Checklist
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Location Type	Kitchen						
Address:						Unit:	
<b>Location Name</b>	:				Locat	ion #:	
Dimensions: L	L:	W:	H:	Date:			

Category:	Miscellar	neous	
Spec #	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			
Addendum			
Addendum			
Addendum			
Addendum			

Location Type	Generic I	nterior Ro	om				
Address:						Unit	•
Location Name:							•
Dimensions:	L:	W:	H:	Date:			

#### **Hazard Assessment**

Principle Shaded cells with ✓ require action	Y	N	<b>Description</b> – Note specific hazards, and potential issues. Items for further testing, professional follow-up.	Severity C = Chronic A = Acute
Clean		I		71 Houte
Cleanable surfaces				
• Clutter				
Hoarding				
Sufficient storage				
Dry	1			
Signs of moisture				
Active leaks				
High humidity				
Musty odor				
Pest Free		I		
Signs of pests				
• Food sources				
Access points for pests				
Safe				
Lighting adequate				
Electrical hazards				
Tripping hazards				
Accessibility issues				
• Risk for falls				
Secure entry				
Contaminant Free	I			
ETS				
Deteriorated paint				
ACM				
CO Detectors				
Odors - VOCs				
Ventilated				
Fresh air source				
Windows operable				
Odors				
Dampness				
Maintained				
Signs of deferred				
maintenance				
Difficult to maintain				
elements				
Deteriorated Paint - LBP				
Thermally Safe				
Temperature differential				
Occupant complaints				

Location Type	Generic Ir	nterior Roo	m						
Address:								Unit:	
Location Name:							Locat	ion #:	
Dimensions:	Ŀ	W:	H:	Date:					

Category:	Walls & C	Ceiling	
Spec#	Unit of Measure	Quantity	Spec Title
17-5355	SF		PATCH PLASTER
Addendum			
17-5210	SF		DRYWALL—PATCH—LARGE
Addendum			
17-5235	SF		LAMINATE 3/8' DRYWALL
Addendum			
17-5270	SF		DRYWALL—1/2"
Addendum			
10-2455	LF		PARTITION—2'x4' NON-BEARING
Addendum			
Addendum			

Category:	Closet		
Spec#	Unit of Measure	Quantity	Spec Title
10 - 4010	EA		CLOSET POLE
Addendum			
10-4015	EA		CLOSET SHELF
Addendum			
Addendum			

Category:	Doors		
Spec#	Unit of Measure	Quantity	Spec Title
10-3255	EA		REHANG INTERIOR DOOR
Addendum			
10-3275	EA		PASSAGE LOCK
Addendum			
10-3280	EA		LOCKSETBEDROOM
Addendum			
10-3345	EA		DOOR—FLUSH INTERIOR HOLLOW CORE
Addendum			
10-3362	EA		DOOR—PREHUNG PASSAGE—SOLID JAMB
Addendum			
10-3300	EA		DOOR STOP—BASEBOARD MOUNT

Location Type	Generic Ir	nterior Room					
Address:						Unit:	
<b>Location Name</b>					Locat	ion #:	
Dimensions: I	•	M·	Ţ	Date:			

Category:	Doors		
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			
Addendum			

Category:	Windows		
Spec#	Unit of Measure	Quantity	Spec Title
10-2775	EA		SASH LOCK
Addendum			
10-2785	PR		SASH CORDS
Addendum			
10-2795	EA		WINDOW REPAIR
Addendum			
10-2810	EA		REPLACE GLASS—WOOD SASH
Addendum			
10-2982	EA		WINDOWVINYLLOW E DBL HNG DBL GLZ
Addendum			
Addendum			
Addendum			

Category:	Flooring		
Spec#	Unit of Measure	Quantity	Spec Title
5-708	SF		REMOVE CARPET AND PAD
Addendum			
10-2312	SF		SUBFLOOR—3/4"
Addendum			
10-2355	SF		FLOOR—REPAIR TONGUE AND GROOVE
Addendum			
10-2351	SF		FLOOR—REFINISH WOOD LOW VOC
Addendum			
20-5920	SF		UNDERLAYMENT AND VINYL COMPOSITION TILE
Addendum			
Addendum			

Location Type	Generic I	nterior Roc	om						
Address:								Unit:	
Location Name:							Locat	ion #:	
Dimensions:	L:	W:	H:	Date:			•	•	

Category:	Flooring		
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			

Category:	Painting		
Spec#	Unit of Measure	Quantity	Spec Title
19-5567	SF		PREP & PAINT VACANT ROOM w/ PAINTED TRIM
Addendum			
19-5568	SF		PREP & PAINT VACANT ROOM w/ NATURAL TRIM
Addendum			
Addendum			
Addendum			

Category:	Electric		
Spec#	Unit of Measure	Quantity	Spec Title
23-7560	EA		REPLACE RECEPTACLE
Addendum			
23-7565	EA		INSTALL NEW RECEPTACLE—15 AMP
Addendum			
23-7675	EA		REPLACE SINGLE POLE LIGHT SWITCH
Addendum			
23-7690	EA		INSTALL SINGLE POLE LIGHT SWITCH
Addendum			
23-7752	EA		ENERGY STAR INTERIOR CEILING FIXTURE
Addendum			
23-7753	EA		ENERGY STAR INTERIOR WALL FIXTURE
Addendum			
23-7715	EA		FIXTURE & 3-WAY SWITCHS—ENERGY STAR 1 LAMP
Addendum			
23-7810	EA		SMOKE ALARM—HARD WIRED—BATTERY BACK-UP
Addendum			
23-8722	EA		CARBON MONOXIDE ALARM—DIGITAL DISPLAY
Addendum			
23-	EA		
Addendum			
23-	EA		
Addendum			

Location Type	Generic I	nterior Ro	oom			
Address:					Unit:	
Location Nam	e:				Location #:	,
Dimensions:	L:	W:	H:	Date:		

Category:	HVAC		
Spec#	Unit of Measure	Quantity	Spec Title
21-6380	EA		PROGRAMMABLE THERMOSTAT
Addendum			
21-6330	EA		REGISTERREPLACE
Addendum			
Addendum			
Addendum			

Category:	Integrate	ntegrated Pest Management						
Spec#	Unit of Measure	Quantity	Spec Title					
29-8395	DU		INTEGRATED PEST MANAGEMENT					
Addendum								
29-8397	EA		SEAL PEST ENTRY					
Addendum								
Addendum								
Addendum								

Category:	Miscellan	eous	
Spec#	Unit of Measure	Quantity	Spec Title
Addendum			
Addendum			
Addendum			
Addendum			
Addendum			
Addendum			

# Pediatric Environmental Home Assessment

DRAFT 5/12/06

#### RESIDENT REPORTED INFORMATION

**Bolded** responses indicate areas of greater concern.

	,							
Gene	eral Housing Charac	teristics						
Type	of Ownership	☐ Own house	□ Ma	arket rate rental hsg.	□s	ubsidized rental hsg.	☐ Shelter	
Age	of Home	☐ Pre-1950	□ 19	50-1978	ПP	ost-1978	☐ Don't know	
Struc	tural Foundation	☐ Basement	□ Sla	ab on grade	u c	rawlspace		
Floors Lived In (check all that apply)		□ Basement	□ 1 <sup>st</sup>		□ 2 <sup>r</sup>	nd	☐ 3 <sup>rd</sup> or higher	
	Fuel Used	☐ Natural gas / LPG	□ Oi		QΕ	lectric	□Wood	
bu	Sources in Home	□ Radiators	□Fo	rced warm air	☐ Space heater or oven☐ Don't know☐		☐ Other:	
Heating	Filters Changed	□Yes	□No	)			□ No filters	
	Control	☐ Easy to control heat	□На	ard to control heat				
Cooling		☐ Windows	□ Ce	entral/window AC	□Fa	ans	□ None	
	ilation k all that apply)	☐ Open windows	☐ Kitchen/bathroom fans		☐ Central ventilation		☐ HEPA air filter	
NOT								
Indo	or Pollutants							
Mold and Moisture		☐ Use dehumidifier☐ No damage	☐ Use dehumidifier☐ No damage		•	☐ Musty odor evident	☐ Visible water / mol damage	
<b>'</b> 0	Presence	☐ No pets		□ Cat #		□ Dog #	Other:	
Pets	Management	☐ Kept strictly outdo	oors	☐ Not allowed in patient's bedroom		☐ Full access in home	☐ Sleeping location:	
	Cockroaches	□ None		☐ Family reports		☐ Evidence seen	Present in  kitchen	
S	Mice	□ None		☐ Family reports		☐ Evidence seen	Present in 🗆 kitchen	

#### NOTES:

#### NURSE OBSERVED INFORMATION

**Bolded** responses indicate areas of greater concern.

Home En	Home Environment								
Drinking \	Water Source	Public water sys	stem	☐ Household We	ell	☐ Shared Well			
Kitchen	Cleanliness	No soiling		☐ Trash or garbaç sealed	ge	☐ Trash or garbage not sealed	e □ Wall/ceiling/floor damage		ng/floor
Kitc	Ventilation	☐ Functioning storexhaust fan/vent	ve	☐ Mold growth present		☐ Broken stove exhaust fan/vent		☐ No stove exhaust fan/vent	
Bathroom	1	☐ Functioning exh	aust	☐ Mold growth present		☐ Needs cleaning and maintenance		☐ Wall/ceiling/floor damage	
Basemen	t	□ None/No Acces	S	☐ Mold growth present		☐ Needs cleaning and maintenance		☐ Wall/ceiling/floor damage	
Living Ro	om	□ No soiling		☐ Mold growth present		☐ Needs cleaning and maintenance		⊒ Wall/ceilir damage	ng/floor
Laundry a	area	□ None		□ Well maintained	b	☐ Dryer not vented outside	Ç	⊒ Hang cloth	nes to dry
Sleep Env	vironment		'		'				
Patient's	Patient's sleep area  Own room			☐ Shared # in room		☐ Other			
# Beds	# Beds 🗓 0			<b>1</b>		□ 2		☐ More than 2	
imnermeable		☐ On mattress and boxspring (zippered)		☐ On mattress only (zippered)		☐ On mattress (not zippered)		□ No mattress covers	
Pillows   Allergen-proof		☐ Allergen-proof	□ Washable			☐ Feather/ down			
Bedding	Bedding			□ Wool/not was	hable	☐ Feather/ down			
Flooring		☐ Hardwood/Tile/Lin	oleum	☐ Small area ru	g	☐ Large area rug		☐ Wall-to	-wall carpet
Dust/mole	d catchers	☐ Stuffed animals/wattoys	ashable	☐ Non-washab toys	le	□ Plants		□ Other	
Window		<ul><li>Washable shades, curtains</li></ul>	☐ Washable bline		nds	☐ Curtains/ drapes	i	□ No window/ poor ventilation	
Other irrit	ants	☐ Abundant cosmetic fragrances	s and	and					
NOTES:									
Home Sat		g code violations							
General									
	novation or r		☐ Yes		□ No	i No			
. •		ls, railings, porches	☐ Yes		□ No	⊒ No			
*Hallway			☐ Ade	quate	☐ Ina	ndequate			
Poison control number		☐ Post	ed by phone	□ No	t posted by phone				
**Family fire escape plan		Deve	eloped and have vailable	□ No	ne				
space hea	ater)	radio, hair dryer,	□ Not	used near water	□ Us	ed near water			
	and lighters	stored	□ Out c	of child's reach	□ Wi	thin child's reach			
Exterior e	environment		☐ Well maintained		☐ Abundant trash and debris			hipping, ling paint	☐ Broken window(s)

NOTES:

#### **NURSE OBSERVED INFORMATION (continued)**

Home Safety * can indicate housing code violations			
Young Children Present	☐ Yes	□ No	
Coffee, hot liquids, and foods	☐ Out of child's reach	☐ Within child's reach	
Cleaning supplies stored	☐ Out of child's reach	☐ Within child's reach	
Medicine and vitamins stored	☐ Out of child's reach	☐ Within child's reach	
Child (less than six years old) been tested for lead poisoning	☐ Within past 6 months  Result:	☐ Within past year or more. When? Result:	□ No
Child watched by an adult while in the tub	☐ Always	☐ Most of the time	□ No
*Home's hot water temperature	□ <120 F	□ >120 F	☐ Don't know
Non-accordion toddler gates used	☐ At top of stairs	☐ At bottom of stairs	□ No
Crib mattress	☐ Fits well	☐ Loose	
Window guards	□Yes	□ No	
Window blind cords	☐ Split cord	☐ Looped cord	

#### NOTES:





and developed by



#### **National Center for Healthy Housing**

10227 Wincopin Circle, Suite 200 • Columbia, MD 21044 • Tel. (410) 992-0712 www.centerforhealthyhousing.org

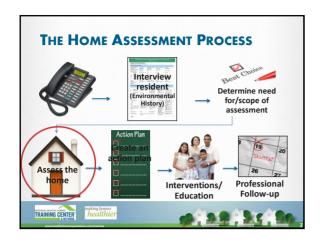
With thanks to

# $N \cdot E \cdot E \cdot T \cdot F$

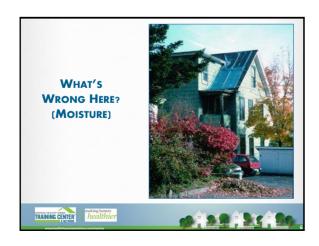
The National Environmental Education & Training Foundation
We credit its Environmental Management of Pediatric Asthma: Guidelines for Health Care Providers
and model Pediatric Environmental History Form



The Center for Healthy Homes and Neighborhoods at Boston University
We credit its model Pediatric Asthma-Allergy Home Assessment form





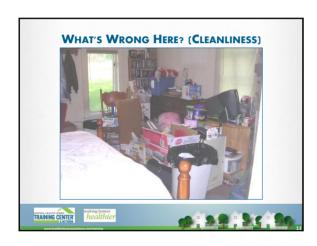






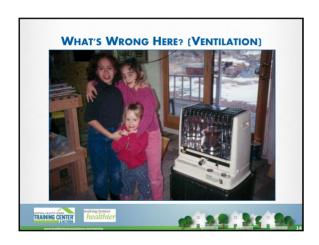


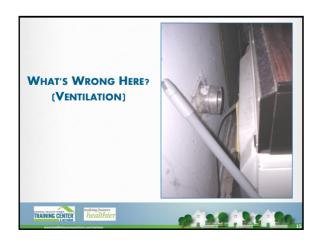






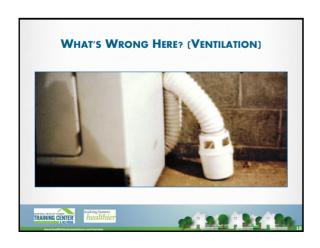
























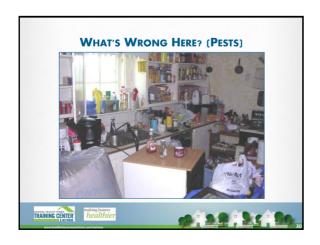


























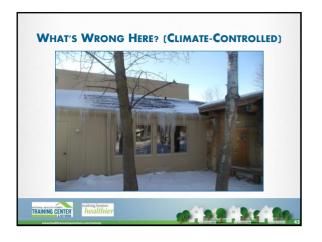












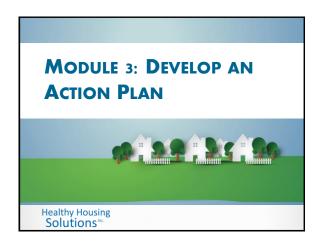
### Heathy Homes: Assessment and Interventions Exercise 9: Virtual Inspection

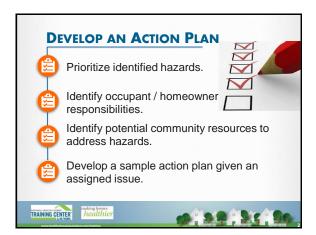
*Instructions:* Identify the healthy housing problems found in each photograph, and propose a course of correction. Avoid writing on the photos.

Photo	Identified Hazard(s)	Proposed Correction(s)			
MOISTU	MOISTURE				
#1					
#2					
#3					
#4					
#5					
CLEANL	INESS				
#1					
#2					
#3					
#4					
VENTILA	ATION				
#1					
#2					
#3					
#4					
#5					
#6					

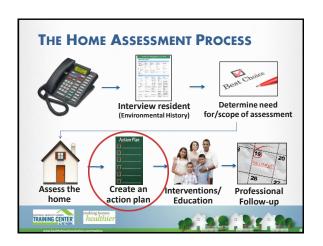
SAFETY			
#1			
#2			
#3			
#4			
#5			
#6			
PESTS			
#1			
#2			
#3			
#4			
#5			
CONTAI	MINANTS		
#1			
#2			
#3			
MAINTE	ENANCE		
#1			
#2			
#3			
#4			
#5			
#6			

CLIMATE-CONTROLLED			
#1			
#2			
#3			
#4			

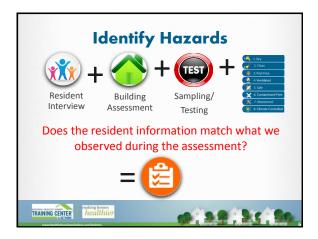




# SELF ASSESSMENT Module 3 – Develop an Action Plan Name at least 2 types of specialized input we may request before finalizing a scope of work. Name four ways program design can affect prioritization. Name at least one potential program partner. Name three potential program funding sources.







## Specialized Input Lead Inspection/Risk Assessment Combustion Safety Testing Structural Social Services? Why should we deal with these before the action plan is finalized?

## The goal is to eliminate or reduce exposure to housing-related hazards that trigger symptoms or cause illness. Consider environmental factors and lifestyle choices Determine interventions for inside and outside the home

# HOW DOES PROGRAM DESIGN IMPACT PRIORITIZATION? Program Scenarios Target Market/Audience Funding Source Team Capacity Current Occupant Needs Potential, Vulnerable Occupants



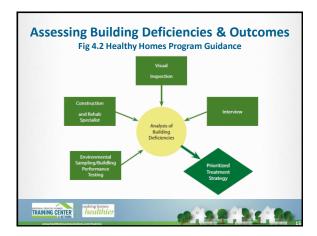


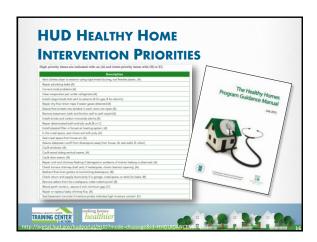
# YOUR PROGRAM REQUIREMENTS MAY GUIDE PRIORITIZATION Example: • Healthy Home Rating System (HHRS): A risk-based assessment that considers the effect of property hazards in 29 categories. • Hazards are rated according to how serious they are and the effect they are having, or could have, on the occupants, that is, "the effect of the defect."

### PRIORITIZE HAZARDS: HEED • Health Impact • Acute vs Chronic • Efficiency/effectiveness • Quick? Big impact? • Expense • Difficulty

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# EFFECTIVE INTERVENTIONS: HEALTHY HOMES GUIDANCE MANUAL Chapter 1 Introduction Chapter 2 Community Involvement in Program Planning Chapter 3 Program Design Chapter 4 Housing-Related Health and Safety Hazard Assessment Chapter 5 Intervention Strategies Chapter 6 Evaluating Your Program Chapter 7 Program Sustainability Available online at portal.hud.gov; search by title





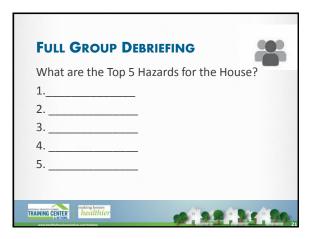




### SMALL GROUP EXERCISE (8): PRIORITIZING HAZARDS (CONTINUED) Prepare your flipchart: • List highest priority from top to bottom • Note acute or chronic "A" or "C" • Select specific line items of work (spec number and quantity) • Prepare to discuss: Do the selected work items sufficiently address the hazard?

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# SMALL GROUP EXERCISE (8): RESIDENT ON-SITE INTERVIEW DEBRIEFING Complete <u>your</u> Exercise 8 solely based upon what you learned during the resident interview. What did the resident report? How does the resident prioritize? Does this change our ranking?



### Creating a Scope of Work • Details and defines the work to be completed • Specifies required materials and workmanship • Prep work • Codes & standards • Materials & • Required warranty manufacturers • etc. • Installation methods • Clarifies project parameters

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### REMEMBERING PROGRAM FUNDING **AND CAPACITY VARIABLES**

- Allowable program parameters
  - Program design what they do
  - · What they pay for
    - Materials Work
  - Who does what work
- Partners & their parameters







### **Refining the Scope of Work**

- Especially important when multiple entities involved
  - Partners
  - Residents
  - Contractors
- Level of detail will vary by intended audience
  - Do non-professionals need guidance/training?







### Regardless of your Program Design...

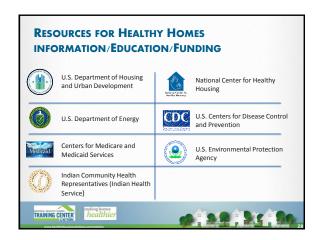
- · There are significant benefits in having someone skilled in health issues and construction on the team for the building assessments
- · It is best to identify the full range of issues and solutions (with their costs) prior to finalizing your "Common Sense Response"











## PRESOURCES FOR SUPPLIES Donated Healthy Homes Supplies Smoke Detectors- Red Cross, Fire Department CO Detectors- Fire Departments Radon Test Kits - State Radon Offices Child Safety Kits - Child Advocacy Organizations

# Piscounted Healthy Homes Supplies • Healthy Home Supply Manufacturers • Filters, paint, caulk, etc. • Hardware Stores, Home Improvement Stores • National Retailers - Local Donation Committees • TIP: Buy local so households can find replacement supplies and buy local, too.

### **EXERCISE 9: COMMUNITY RESOURCES**

- What resources are in the room?
  - · Your personal knowledge
  - Smartphones
  - · Each other
- Customize the Community Action For Healthy Housing flyer in your manual
- Be specific! Include websites, emails, phone numbers

The group with the most complete flyer wins a fabulous prize!







### **CREATING AN ACTION PLAN: ESTABLISHING A PERSPECTIVE**

It's important to approach this exercise including the home health visitor perspective. Assume you are working in a program that regularly conducts home visits and education.







### **SMALL GROUP EXERCISE (10): CREATE AN ACTION PLAN**



- Working in groups, you will be assigned one of the top 5 issues (Exercise 8, Part C).
- First, use the PEHA nursing care plan to determine responsibilities.
  - This is only one example of an Action Plan.
  - Is it complete for your program purposes?







### **SMALL GROUP EXERCISE** (10): CREATE AN ACTION PLAN (CONTINUED) • Next, use the Exercise 10 worksheet to



- develop an Action Plan for your assigned issue.
- Include all potential resources:
  - Your agency
  - Family
  - Landlord
  - Community organizations, etc.
- Revisit Exercise 2 Making the Connections







### **HUD Healthy Homes Program Guidance Manual**

### Housing-Related Health and Safety Hazard Assessment

Table 4.1 Priority List of Better Homes for Asthma (adapted from Seattle/King County Health Department)<sup>18</sup>

High priority items are indicated with an [A] and lower-priority items with [B] or [C].

Description	
Vent clothes dryer to exterior using rigid metal ducting, not flexible plastic. [A]	
Repair plumbing leaks [A]	
Correct mold problems [A]	
Clean evaporator pan under refrigerator [A]	
Install range hoods that vent to exterior [A for gas; B for electric]	
Repair dry floor drain traps if sewer gases detected [A]	
Assure that at least one window in each room can open [A]	
Remove basement, bath and kitchen wall to wall carpet [A]	
Install smoke and carbon monoxide alarms [A]	
Repair deteriorated bath and tub caulk [B or C]	
Install pleated filter in forced-air heating system. [A]	
In the crawl space, seal /cover soil with poly. [A]	
Seal crawl space from house air. [A]	
Assure adequate runoff from downspout away from house. [A: wet walls; B: other]	
Caulk windows. [A]	
Caulk wood siding vertical seams. [A]	
Caulk door seams. [A]	
Repair roof and chimney flashing if damaged or evidence of interior leaking is observed. [A]	
Check furnace chimney draft and, if inadequate, check cleanout opening. [A]	
Redirect flow from gutters to functioning downspout. [B]	
Check return and supply ducts (only if in garage, crawl space, or attic) for leaks. [B]	
Remove debris from the crawlspace, make rodent-proof. [B]	
Wood-earth contact—assure 6 inch minimum gap. [C]	
Repair or replace leaky chimney flue. [A]	
Seal basement concrete if moisture probe indicates high moisture content. [C]	

### Heathy Homes: Assessment and Interventions Exercise 8: Prioritizing Hazards

A. For each room you assessed, try to list at least three hazards you identified.

itchen	
1	
2	
3	
4	
5.	
iving area (if more than one, please specify)  1.	
2.	
3.	
4	
5.	
leeping area (if more than one, please specify)  1.	
2.	
3.	
4.	
5.	

Bathroom (if more than one, please specify)	
1	
2	
3	
4	
5	
Basement	
1.	
2	
3	
4	
5	
Exterior	
1	
2	
3	
4	
5	
Part C:	
Top five for Entire House?	
1	
2	
3	
4	
5	

### B. As a group, decide on the top five hazards for your assigned room. For each:

- Specify what makes it a hazard: What are the associated health risks?
- Indicate if the health risk is acute or chronic.
- Rank it from 1 (most serious) to 5 (least serious) of these top five.

1. Hazard:	
Health impact:	
Acute Chronic	Rank:
2 Hazard	
2. Hazard:	
Acute Chronic	Rank:
3. Hazard:	
Health impact:	
Acute Chronic	Rank:
4. Hazard:	
Health impact:	
Acute Chronic	Rank:
5. Hazard:	
Health impact:	
Acute Chronic	Rank:

### Sample Specifications – Bathroom

### FAN/LIGHT FIXTURE-ENERGY STAR

\$450/EA

\$145/EA

Install an ENERGY STAR Qualified and Home Ventilation Institute Certified ceiling mounted Fan/Light fixture, rated at a min. 80 CFM operating at 1 Sone or less, with an integral damper, and vented to the exterior. Switch fan & light using a single switch with a time delay for the fan such as the AirCycler Smart Exhaust Bathroom Fan Light Timer Switch # 11129s (color to coordinate with existing)

https://www.aircycler.com/pages/smartexhaust or equip the fan with a switch controlled by a humidistat sensor. Install galvanized metal duct or aluminum duct of the same diameter as the fan outlet and vent to the exterior ideally through a wall or gable end using a metal hooded vent of like diameter and with damper. All duct seams shall be sealed with duct mastic. Insulate the ductwork with vinyl or foil faced R 8 minimum duct insulation. Repair any damage to the ceiling installation and air seal fan/light assembly to the ceiling with low VOC caulk.

### GFCI RECEPTACLE

Install a new ivory GFCI receptacle and required distribution with an appropriate box. Receptacle and cover plate to match existing. GCI shall be tamper-resistant and conforming with UL 943 standard including the required self-test (auto-monitoring) function. Patch any tear out.

BATHTUB/SHOWER-5' FIBERGLASS-COMPLETE-W/ GRAB BARS \$2,250/EA Install a 5', 4 piece, Sterling Accord®, fiberglass tub and shower unit 60" x 30" x 72" Product #: 71240125 (right hand drain) or 71240115 (left hand drain) (www.sterlingplumbing.com). Include a seat and ADA compliant grab bars; lever operated pop up drain and overflow; PVC waste; single lever shower diverter; shower rod; Delta Monitor Model 1343 tub/shower faucet (www.deltafaucet.com) and a shower head with a maximum 2.0 GPM flow rate. Install faucet controls toward the outside of the tub for easier access. Exterior wall sections behind the tub shower unit and any plumbing penetrations must be completely air-sealed prior to installation. Per Sterling installation instructions set basin area in 1" to 2" bed of mortar.

### COMMODE--REPLACE--1.28 GPF

\$375/EA

Install a maximum 1.28 GPF white WaterSense® Certified, vitreous china commode with a minimum bowl height of 16.5 inches, tested through the latest edition of the "Maximum Performance" (MaP) testing project (http://www.map-testing.com) that has shown to score 800 or better on the MaP Flush Performance test, such as the American Standard FloWise Compact Cadet 3 EL 2568.128. Include a manufacturer's approved plastic or pressed wood white seat, supply pipe, shut-off valve, and wax seal.

### **Community Action for Healthy Housing**

There are a lot of things that a resident can do to make their home healthy. They can wipe down shower stalls, get rid of clutter, keep food in sealed containers, use exhaust fans, make sure that smoke alarms work, and have their children tested for lead poisoning.

But what if a landlord refuses to fix a leak or clean up mold? What if a homeowner can't afford to seal up a crack or repair a window themselves? Here are some tools for action that may help with these problems.

If the resident is a renter, the first thing they should do is check their lease! Usually, their lease will say that the landlord has to keep the property in good condition.



Not sure what good condition means? **Contact** your local department of housing, a building code official, or your local health department to **find out how a landlord in** your community is required to maintain their property.



If the resident lives in Section 8 or other public housing, HUD requires that the property meet certain standards called the Housing Quality Standards.



Contact your landlord and/or local public housing authority to find out the requirements the landlord must follow to maintain a property for Section 8 or other public housing residents.



If you are working with a homeowner who needs money for repairs, you may be able to get the money (as a grant or loan) from a weatherization or minor repair program.



Many weatherization or minor repair programs are run by a local **Community Action Agency**. Look in the phone book for one in your community. If you can't find one, **contact** your local Department of Housing. If you community has a local **healthy homes program** or **lead hazard control program**, they might be able to help also.

[ADD ADDITIONAL LOCAL RESOURCES HERE]

[ADD ADDITIONAL LOCAL RESOURCES HERE]

### Module 3 – Action Plans Exercise 10: Create an Action Plan

- A. Your trainer will either assign your group a hazard from the list of top five hazards identified in "Exercise 8: Prioritizing Hazards." For your hazard:
  - Write 3 5 basic action steps that can be taken to remedy the hazard.
  - For each, apply the HEED rule. Indicate if you think the Health impact, the Effectiveness/efficiency, the Expense, and the Difficulty of implementing each step is high (10), low (1), or somewhere in between.
  - Also, for each try to identify who might be responsible for the step, both in terms of doing the work and paying for it. Include all potential resources, including your agency, the family, the landlord, community organizations, etc. What resources are available? Will professionals be needed?

1.				
	Cost	Health Impact	Effectiveness/Efficiency	Difficulty
	Responsibilitie	es:		
2.				
	Cost	Health Impact	Effectiveness/Efficiency	Difficulty
	Responsibilitie	es:		
3.				
	Cost	Health Impact	Effectiveness/Efficiency	Difficulty
	Responsibilitie	2 <b>ç</b> .		

Cost	Health Impact	Effectiveness/Efficiency	Difficulty
Responsib	ilities:		
Cost	Health Impact	Effectiveness/Efficiency	Difficulty
Responsib  Next, iden	ilities:  ntify two key messages y	you believe should be conveyed	to the resident re
Responsib  Next, iden this issue. considera	ilities:	you believe should be conveyed how you might word the messag ou have about the resident and l	to the resident re ge, taking into nis/her circumsta
Responsib  Next, iden this issue. considera	ilities:	you believe should be conveyed how you might word the messag	to the resident re ge, taking into nis/her circumsta
Responsib  Next, iden this issue. considera	ilities:	you believe should be conveyed how you might word the messag ou have about the resident and l	to the resident re ge, taking into nis/her circumsta
Responsib  Next, iden this issue. considera	ilities:	you believe should be conveyed how you might word the messag ou have about the resident and l	to the resident re ge, taking into nis/her circumsta

## **Pediatric Environmental Home Assessment Form**

## **NURSING CARE PLAN**

After completing the assessment, use this as a guide for patient education and recommending corrective action.

General Housing Characteristics			
CONCERN	NURSE TO DO	FAMILY TO DO	
Age of home	□ If built before 1978, educate as follows:  ○ Home is likely to have lead paint.  ○ Lead hazards can be harmful to young children's health and development.  ○ If family has a child less than six years old then it is important to test for lead hazards.  □ Get more information about lead testing at www.epa.gov/lead/ and provide to family.  □ Review items in "Family To Do" column with family.	<ul> <li>□ If your child is less than six years old, contact the childhood lead poisoning prevention program (CLPPP) at your state and local departments of health.</li> <li>□ Consider getting a lead paint inspection or risk assessment to determine whether there are lead hazards in your home.</li> <li>□ If there are hazards, repair them based on state and local regulations and requirements. Consult with state CLPPP.</li> </ul>	
Heating source - Other: Kerosene heaters, space heaters, fireplaces, wood stoves	<ul> <li>□ Counsel family about the dangers of such heating sources in terms of fire safety and indoor air quality.</li> <li>□ Get more information about indoor air quality and combustion sources in the home at <a href="http://www.epa.gov/iaq/combust.html">http://www.epa.gov/iaq/combust.html</a> and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> <li>□ Counsel family to do proper filter maintenance.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>☐ Make sure kerosene heaters are vented to the outdoors or not used.</li> <li>☐ Make sure space heaters are at least 3 feet from anything flammable.</li> <li>☐ When necessary, use only 12 or 14 gauge extension cords (the lower the better).</li> <li>☐ Ensure that there is a good seal on fireplace screen or woodstove doors.</li> <li>☐ Change filters quarterly.</li> <li>☐ Use filters which are rated MERV 10.</li> </ul>	
Indoor Pollutants			
CONCERN	NURSE TO DO	FAMILY TO DO	
Vaporizers/Humidifiers	<ul> <li>□ Counsel the family about the importance of proper vaporizer/humidifier maintenance and impact of mold growth on patient health.</li> <li>□ Get more information about humidifier maintenance at <a href="http://www.epa.gov/iaq/pubs/humidif.html">http://www.epa.gov/iaq/pubs/humidif.html</a> and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Change the water daily with clean cold water.</li> <li>□ Use distilled or demineralized water.</li> <li>□ Clean humidifier every 3 days. Follow manufacturer's instructions.</li> <li>□ Change filter regularly. Follow manufacturer's instructions. Change more often if dirty.</li> <li>□ Keep surrounding area dry.</li> <li>□ Drain and clean humidifier before storing.</li> <li>□ Only run humidifier a few hours a day to avoid mold growth.</li> </ul>	
Mold/Musty odor	<ul> <li>□ Educate family about the importance of keeping things dry and the impact of mold on family health.</li> <li>□ Get more information at <a href="http://www.epa.gov/mold/moldguide.html">http://www.epa.gov/mold/moldguide.html</a> and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Any mold or musty odor must be investigated for a source of water. Examine plumbing, roofing, or other possible leaks.</li> <li>□ If homeowner, then make necessary repairs.</li> <li>□ If renter, then talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations.</li> </ul>	

Indoor Pollutants (continu	NURSE TO DO	FAMILY TO DO
Pets	☐ If patient is allergic to pets, educate as follows:  ○ Pets should not be allowed in bedrooms.  ○ If possible, pets should be given away.  ○ If pets cannot be given away, wash and groom pet to reduce allergens.  ☐ Review items in "Family To Do" column with family.	☐ If symptomatic, get allergen testing to determine if you are allergic to pets.
Infestations (mice, rats, cockroaches)	<ul> <li>□ Educate family about pest management and behavior change.</li> <li>□ Get more information and order print materials at www.epa.gov/pesticides/catalogue and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Eliminate water and food sources. Seal garbage and all foodstuffs. Look for water leaks.</li> <li>□ Call local board of health for inspection</li> <li>□ AVOID "bombs" of pesticides.</li> <li>□ Hire, or talk to your landlord about hiring, an exterminator for "Integrated Pest Management" which does NOT include spraying pesticides.</li> </ul>
Lead paint hazards	<ul><li>See "Age of Home" above.</li><li>Review items in "Family To Do" column with family.</li></ul>	☐ See "Age of Home" above.
Radon	<ul> <li>□ Educate family about impact of radon on health.</li> <li>□ Get more information about radon and radon testing at <a href="www.epa.gov/radon/">www.epa.gov/radon/</a> and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Consider purchasing a radon home test kit.</li> <li>□ Consult with your state and local departments of health about radon.</li> </ul>
Asbestos	□ Educate family about impact of asbestos on health. □ Get more information about asbestos testing at www.epa.gov/asbestos/ and provide to family. □ Review items in "Family To Do" column with family.	<ul> <li>□ Do not disturb any surfaces which might contain asbestos.</li> <li>□ Consult with your state and local departments of health about asbestos.</li> </ul>
Smoke alarm/CO alarm	□ If no smoke alarms, educate about risks and local laws regarding the presence of smoke alarms. □ Counsel family to: □ Install smoke alarms in home on every level and in every sleeping area. □ Test them once a month. □ Replace the batteries at least twice a year. □ Replace alarms every 10 years. □ If combustion appliances but no CO alarms, educate about risks and local laws regarding the presence of CO alarms. □ Review items in "Family To Do" column with family.	□ If no smoke alarms, then:  ○ Purchase smoke alarms. Ensure that there is an operational smoke alarm on every floor of the home and in every sleeping area.  ○ Call local board of health for local smoke alarm requirements. Some states have laws regarding presence of smoke alarms.  □ If combustion appliances but no CO alarms, then:  ○ Make sure to purchase CO alarms which log peak levels. Ensure that there is an operational CO alarm on every floor of the home.  ○ Call local board of health for local CO alarm requirements. Some states now have laws regarding presence of CO alarms.
Tobacco Smoke Exposure	<ul> <li>□ Educate about risks of environmental tobacco smoke (ETS) to children.</li> <li>□ Get more information about ETS at <a href="http://www.epa.gov/smokefree/index.html">http://www.epa.gov/smokefree/index.html</a> and provide to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Choose not to smoke in your home and car and do not allow family and visitors to do so. Infants and toddlers are especially vulnerable to the health risks from secondhand smoke.</li> <li>□ Do not allow childcare providers or others who work in your home to smoke.</li> <li>□ Until you can quit, choose to smoke outside. Moving to another room or opening a window is not enough to protect your children.</li> <li>□ Get help to stop smoking. Refer to EPA Smokefree Home pledge website www.epa.gov/smokefree and contact local smoking cessation services.</li> </ul>

Home Environment		
CONCERN	NURSE TO DO	FAMILY TO DO
Other Irritants (scents, potpourri)	□ If air fresheners present, educate as follows:  ○ Many air fresheners have volatile organic compounds (VOC) which trigger asthma. Avoid these products whenever possible.  □ Get more information about VOCs at <a href="http://www.epa.gov/iaq/voc.html">http://www.epa.gov/iaq/voc.html</a> and provide to family.  □ Review items in "Family To Do" column with family.	□ Remove air fresheners from home.
Cleaning	□ Educate about benefits of wet mopping. □ Review items in "Family To Do" column with family.	Avoid dry mopping or sweeping which makes dust airborne and may trigger an asthma exacerbation. Use wet mopping instead
Drinking Water Source – Public water supply	□ Get more information about water testing at www.epa.gov/safewater/labs □ Check to make sure septic system is not close to well. □ Review items in "Family To Do" column with family	<ul> <li>□ Test water for lead. Contact local or state department of health for water testing information.</li> <li>□ Find out if the public water supplier has notified consumers of any violations of health-based standards in the last year.</li> </ul>

Home Environment (contin	ued)	
CONCERN	NURSE TO DO	FAMILY TO DO
Drinking Water Source – Household well water	<ul> <li>□ Ask these additional questions:         <ul> <li>Is the wellhead protected and well constructed according to state or other requirements/specification?</li> <li>Is water tested annually for bacteria and, if pregnant woman or infants in household, nitrates, and okay?</li> <li>Is water tested annually, contaminants detected and alternate source used (appropriate filter or bottled water)?</li> <li>Is water tested annually, contaminants detected, but alternate source not used?</li> <li>Has the water been tested within the last year?</li> <li>Are there noticeable changes in water taste, odor, color or clarity? (In this case, especially if pregnant woman or infant is in the household, recommend testing more than once a year).</li> <li>Has there been a chemical or fuel spill leak near water supply? (If yes, recommend testing for chemical contaminants, such as volatile organic compounds).</li> <li>Get more information about water testing at www.epa.gov/safewater/labs</li> <li>Review items in "Family To Do" column with family.</li> </ul> </li> </ul>	☐ Test water for lead. Contact local or state department of health for water testing information.
Mold	<ul> <li>□ See "Mold and Musty Odor" recommendations above.</li> <li>□ Make sure fans in bathroom and kitchen vent to the outside, not just in to walls. The goal is to take moisture out of home.</li> <li>□ Review items in "Family To De" column with family</li> </ul>	☐ See "Mold and Musty Odor" recommendations above.
Damage	<ul> <li>Review items in "Family To Do" column with family.</li> <li>Educate about mold risks as they relate to damage.</li> <li>If family owns home, then counsel to change behaviors.</li> <li>If family rents home, then counsel them to talk with their landlord.</li> <li>Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>☐ If homeowner, then make necessary repairs.</li> <li>☐ If renter, then talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations.</li> </ul>

Sleeping Area		
CONCERN	NURSE TO DO	FAMILY TO DO
Mattress covers	<ul> <li>☐ If patient is allergic to dust mites, educate as follows:         <ul> <li>Use allergen impermeable mattress covers with zippers on beds and pillows.</li> </ul> </li> <li>☐ Review items in "Family To Do" column with family.</li> </ul>	If symptomatic, get allergen testing to determine if you are allergic to dust mites.
Carpet	□ Review items in "Family To Do" column with family.	<ul> <li>□ Clean wall to wall carpet with vacuum weekly.</li> <li>□ Shake area rugs outside weekly.</li> <li>□ If carpet is more than 8 years old, consider replacing it with smooth wipeable flooring to reduce dust exposure. (8 year number came from Megan Sandel. Need to determine if that is number used by others too.)</li> </ul>
Dust catchers	☐ Review items in "Family To Do" column with family.	<ul><li>□ Reduce dust with less clutter.</li><li>□ Seal clutter in bags or boxes.</li></ul>
Windows	☐ If patient is allergic to dust mites, review items in "Family To Do" column with family.	<ul> <li>☐ If symptomatic, get allergen testing to determine if you are allergic to dust.</li> <li>☐ Use window treatments that are wipeable.</li> <li>☐ Avoid curtains and drapes to reduce excessive dust exposure.</li> </ul>
Home Safety		
General Safety		
CONCERN	NURSE TO DO	FAMILY TO DO
Renovation/remodeling	□ See "Age of Home" above. □ Review items in "Family To Do" column with family.	□ See "Age of Home" above. □ If the home was built pre-1978 and there is a child less than six years old: □ get a lead paint inspection or risk assessment. □ repair any lead hazards based on state and local regulations and requirements. Consult with state CLPPP. □ If the home was built pre-1978 and there is no child less than six years old: □ consult with the CLPPP at your state and local departments of health about lead-safe renovation. □ Change behaviors, such as modifying dust generating techniques and containing the work area.
Stairs, walls, railings, porches, lighting	<ul> <li>☐ If family owns home, then counsel to change behaviors, such as making minor repairs to fix loose railings.</li> <li>☐ If family rents home, then counsel them to talk with their landlord.</li> <li>☐ Review items in "Family To Do" column with family.</li> </ul>	☐ If homeowner, then make necessary repairs. ☐ If renter, then talk with your landlord about needed repairs. Consider calling the local board of health for possible code violations.
Poison control	<ul> <li>□ Provide national poison control number 1-800-222-1222 to family.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	☐ Post the national poison control number 1-800-222-1222 near telephone.

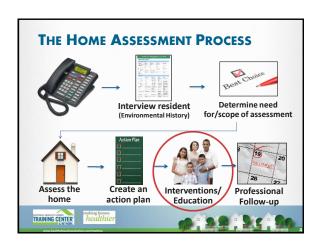
General Safety (continued)			
CONCERN	NURSE TO DO	FAMILY TO DO	
Family fire escape plan	<ul> <li>□ Counsel to change behaviors, such as develop a family safety plan.</li> <li>□ Get more fire safety information at <a href="http://www.usa.safekids.org/content_documents/firechecklist.pdf">http://www.usa.safekids.org/content_documents/firechecklist.pdf</a></li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Develop a family safety plan.</li> <li>□ Need to know two ways out of the house.</li> <li>□ Need to have a place to meet after you are outside the house.</li> <li>□ Teach children the family safety plan for escaping your home in a fire and practice it</li> </ul>	
Electrical appliance	☐ Counsel to change behavior. ☐ Review items in "Family To Do" column with family.	☐ Do not use electrical appliances near water.	
Matches and lighters	☐ Counsel to change behavior. ☐ Review items in "Family To Do" column with family.	☐ Do not store matches and lighters where children can reach them.	
Exterior environment	<ul> <li>☐ If abundant trash and debris, counsel family about waste management.</li> <li>☐ If waste containment is the problem, counsel family to talk with landlord.</li> <li>☐ See "Infestations" above.</li> <li>☐ If the home was built pre-1978, contact the childhood lead poisoning prevention program (CLPPP) at your state and local departments of health for information about chipping, peeling paint. See "Age of Home" above.</li> <li>☐ Review items in "Family To Do" column with family.</li> </ul>	□ See "Infestations" above. □ See "Age of Home" above.	
Young Children			
CONCERN	NURSE TO DO	FAMILY TO DO	
Hot liquids/cleaning supplies/medicines	☐ Counsel to change behaviors. ☐ Review items in "Family To Do" column with family.	☐ Do not have hot liquids, cleaning supplies, or medicines within a child's reach.	
Lead testing for children less than 6 years old	<ul> <li>☐ If the home was built pre-1978, counsel the family to have the child's blood tested for lead.</li> <li>☐ See "Age of Home" above.</li> <li>☐ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>Contact the childhood lead poisoning prevention program (CLPPP) at your state and local departments of health about lead testing resources.</li> <li>See "Age of Home" above.</li> </ul>	
Child watched by an adult while in tub	<ul> <li>Counsel to change behavior.</li> <li>Educate family about importance of not leaving children unattended in the tub.</li> <li>Review items in "Family To Do" column with family.</li> </ul>	☐ Do not leave children unattended in the tub.	
Hot water temperature	□ Educate family about dangers of scalding. □ Review items in "Family To Do" column with family.	☐ Set hot water temperature to <120 F	
Toddler gates	<ul> <li>Counsel family to install non-accordion toddler gates at the top and bottom of stairways.</li> <li>Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>Contact local injury prevention program to determine whether there are toddler gate resources available.</li> <li>Install non-accordion toddler gates at the top and bottom of stairways.</li> </ul>	

Young Children		
CONCERN	NURSE TO DO	FAMILY TO DO
Crib mattress	<ul> <li>□ Counsel family that crib mattress should fit snugly next to the crib so that there is no gap.</li> <li>□ If two adult fingers can be placed between the mattress and the crib, then counsel the family to immediately replace the mattress.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>Put your baby to sleep in a crib with a firm, flat mattress and no soft bedding underneath.</li> <li>Ensure that your crib mattress fits snugly next to the crib so that there is no gap.</li> </ul>
Window guards	<ul> <li>□ Counsel family about window safety.</li> <li>□ Contact local injury prevention program to determine whether there are window guard resources available.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>□ Contact local injury prevention program to determine whether there are window guard resources available.</li> <li>□ Install window guards.</li> </ul>
Window blind cords	<ul> <li>□ Counsel family to keep window blind cords out of children's reach and to purchase childproofing items for cord safety.</li> <li>□ Review items in "Family To Do" column with family.</li> </ul>	<ul> <li>☐ Keep window blind cords out of children's reach</li> <li>☐ Purchase childproofing items for cord safety.</li> </ul>

# MODULE 4: IMPLEMENT INTERVENTIONS Healthy Housing Solutions<sup>INC</sup>



# SELF ASSESSMENT MODULE 4 - IMPLEMENT INTERVENTIONS Name the five steps in the bid process. Name at least four reasons to complete an inhouse cost estimate. Name five suggested requirements for accepting contractor bids. Name five sources of program evaluation data.







## **EFFECTIVE REMEDIATION REQUIRES**

- Good Scope
- Good Spec
- Good Cost Estimate
- Fair Bid Process
- Quality Control
- Recordkeeping







## **INDIVIDUAL EXERCISE (11): YOUR CONTRACTING PROCESS**



- What do you know about the process for handling contractors in your organization?
- Briefly jot down notes on your worksheet in response to the questions.
- Share your responses as part of a class discussion.





## **BENEFITS OF IN-HOUSE COST ESTIMATES**

- 1. Feasibility & Budgeting
- 2. Manage expectations
- 3. No surprises on bid opening
- 4. Contractor honesty check
- 5. Keep contractor from "going under"
- 6. Funders may require it





### **COST ANALYSIS EXAMPLE**

Break down the price by cost components, and examine each item of cost

New Roofing:

- Materials: plywood, nails, felt, asphalt shingles;
- Equipment: Cranes, dump truck
- Labor costs







## SPECS WITH FULLY LOADED PRICING

- Includes labor, material overhead & profit in one number
- Used in solutions-based checklists

**TIP**: The easiest way to maintain up-to-date unit pricing? Have contractors provide you with an line-item breakdown.







### **Suggested Cost Categories** Allowable costs will differ by program Outreach and Education Housing Intervention Costs Assessment Costs Costs Forms and outreach materials Specification costs Home visits Average cost per housing Media costs Environmental sampling Range of housing unit costs Public education and Laboratory analysis Specific intervention costs training offerings TRAINING CENTER healthier

## THE BID PROCESS 1. Specifications/Scope of work 2. Request for bids • Site visit 3. Bidding: formal/informal · Bid process and control 4. Review bids





5. Award the contract



## **BIDS & QUOTES**

- Why bid at all?
- What are the advantages of bidding?
- What are the consequences if you don't?
- Who Controls the Bid Process?
  - Should bids go to you?
  - Should bids go to the property owner?

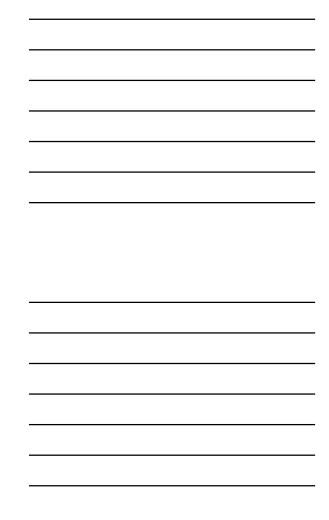




## **PROCUREMENT POLICY**

- Agency may have guidelines for how jobs must be bid according to dollar value.
- Know your policy!

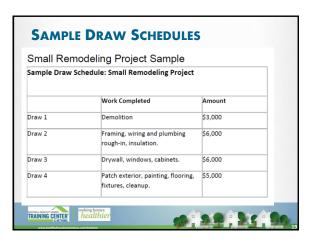








## DRAW SCHEDULE: BENEFITS Helps avoid payment conflicts Based on accurate, detailed estimate and schedule of values Strikes balance between contractor's and program's needs Reflects actual value of work completed May be highly detailed or more basic, depending on project type/size and the financing arrangements



## **PROVIDE INTERVENTION RESOURCES TO RESIDENTS AND OWNERS**

- · Education, guidelines
- Contact information for agencies and volunteer organizations that might be able to help
- Suggestions on what materials to use and where to get them
- Recommendations for contractors if they need one
- Information, including timelines, about what work is to be completed by others





## **QUALITY CONTROL: MONITOR RESIDENT'S PARTICIPATION**

- Telephone follow-up
- Onsite visits
- Work completion follow-up
- Long-term follow-up for bigger, more serious interventions
- Follow-up tests as needed



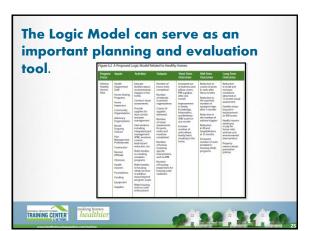


## QUALITY CONTROL: MONITOR OTHER WORK EFFORTS • Co-workers • Volunteers • Partners • Supervisors • Contractors • Others?

## RECORD KEEPING What information do they need? When do they need it? In what format? How do you find it?

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## EVALUATION STARTS AT THE PROGRAM DESIGN PHASE • Decide early: Who's on the team, how to secure good quality data, and ways to measure qualitative and quantitative accomplishments. • Evaluation measures include process (outputs), outcomes, and costs. • Disseminating evaluation findings is critical to program sustainability.



## LOGIC MODELS SERVE MULTIPLE **PURPOSES**

- Identify short-, immediate, and longterm outcomes for the program.
- Link expected outcomes to the program's intended activities and inputs.
- Establish program boundaries to prevent "mission creep."





### WHERE DOES EVALUATION DATA COME FROM?

- Grant proposals and quarterly
   Reports held by funders or reports
- Newsletters, publicity
- materials and press releases Meeting minutes and administrative records
- Registration and enrollment forms
- Publications and journal
- Prior evaluations
- Asset and needs analyses · Client satisfaction surveys
- Databases

- partner agencies
- Websites
- Graphs, maps, charts, photos, and videos
- · Feedback from key individuals, including clients and nonparticipants, staff, general public, key informants, critics, staff of other agencies, representatives of advocacy groups, policy-makers, funders, federal, state, and local health & housing officials.

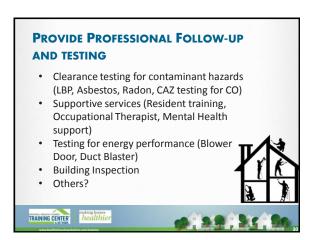






## COMMON PROGRAM OUTPUTS See Chapter 6, Figure 6.6 in the HUD Healthy Homes Program Guidance Manual A Common Manual A Common





## Module 4 - Interventions Exercise 11: Your Contracting Process

Consider your how your organization deals with construction work and contractors. To extent you're familiar with that process, answer the following questions.

1.	What work is currently completed by contractors?
2.	Does your organization issue specifications? If so, who writes them?
3.	Are you involved in the bid process? How? What is the process?
4.	How do you currently advertise construction work?

5.	How do you qualify contractors? How do you decide/award jobs?
6.	How do you monitor or oversee the work?